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HEALTHY, HAPPY TEACHERS TO GUIDE HEALTHY, HAPPY CHILDREN

A Health Education Procedure

FOR THE GRADES AND GRADE TEACHERS

BY

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TO my own Mother, my second Mother and my Father, this book is inscribed, with the wish that all children could enjoy the fine type of home life they have made for their children and their playmates.

"When a teacher, by reason of inspiration or good training, brings to her children the right thing, they respond so freely and fully that half in ecstasy and half in despair she exclaims, 'Why can not they be always like this?' If they could the millennium would indeed be here ushered in by an army of perfect teachers."

John Dewey.

PREFACE

I am indebted to so many sources for material and suggestions, and to so many people for inspiration, cooperation and encouragement, that I hesitate to call this volume my own.

To Dr. Maurice A. Bigelow, Dr. Jean Broadhurst, Miss L. R. G. Burfitt, Dr. John W. Good, Dr. Linsly R. Williams, Miss Louise Strachan, to my brother, F. E. Wilkinson, and to my husband, I am deeply indebted for reading this entire manuscript and for making many helpful suggestions. I am also indebted to Dr. Jesse F. Williams for reading and for special criticism of the chapters on Physiology and Physical Education; to Dr. Dawson Allen for criticism of the chapter on School Health Supervision; to Dr. Richard Binion for criticism of section on Communicable Diseases; and to Miss Catherine Scott for assistance in proof reading. To all these I express gratitude, knowing that without their interest, help, and encouragement this volume could not have been written.

The following critic teachers of the Practice School of the Georgia State College for Women at Milledgeville, Ga. deserve special mention for developing and guiding the enthusiastic response for health work from the children in their respective grades (1917–24): Miss Julia Bethune (Mrs. Fred Smith) and her successor, Miss Maggie Jenkins, Miss Elizabeth Moore and her successor, Miss Rachel Shaw, Miss Estelle Adams, Miss Mary Brooks, Miss Mary Talley, and Miss Louise Smith. The successful testing of the course of study as given in Book II of this volume resulted from the cooperation of these co-workers, and I now publicly express my appreciation for their untiring work.

To Dr. M. M. Parks, President of the Georgia State College for Women, and to Miss L. R. G. Burfitt, Principal of the College Practice School I wish to express my heartfelt gratitude for encouragement and valuable assistance.

The excerpts from "Health Education in Rural Schools" by J. Mace Andress are used by courtesy of Dr. Andress and Houghton Mifflin Co., those from "Hygiene of the School Child" and "The Teachers Health" by L. M. Terman, also by courtesy of Houghton Mifflin Co., those from "The Posture of School Children" by Jessie Bancroft, "Healthful Living" and "Physical

Education" by Jesse F. Williams, "School Hygiene" by F. B. Dresslar, "Stuttering and Lisping" by E. W. Scripture, "Child Psychology" by Norsworthy and Whitley, and "Applied Biology" by Dr. Maurice A. Bigelow, by courtesy of The Macmillan Co., those from "Physical Training for the Elementary Schools" by Lydia Clark, by courtesy of Benj. H. Sanborn and Co., those from Cornell's "Health and Medical Inspection of School Children" by courtesy of F. A. Davis, those from Well's "A Project Curriculum" and Hartzell's "Diseases of the Skin" by courtesy of J. B. Lippincott Co., the quotation from "How to Live" by Fisher and Fisk by courtesy of Funk and Wagnalls, those from "Human Physiology" by P. G. Stiles and "Personal Hygiene Applied" by Jesse F. Williams through permission of W. B. Saunders Co.

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It would be vain to hope that a volume of this scope on a subject as new as Health Education could be without error either in content or method, or that it would be received without some adverse criticisms—for my errors and all adverse criticism I am entirely responsible.

KATHLEEN WILKINSON WOOTTEN

FOREWORD

The material in this book has been collected by the author during eight years' experience as director of health education at the Georgia State College for Women, at Milledgeville, Ga., where the fine attitude and intelligent interest of the student body in matters relating to health give evidence that this subject can be made of vital interest to teachers in training. The lesson outlines and projects included have been tried out in actual practice with children and it is in the belief that they will give helpful suggestions to teachers who are attempting to put health into the school curriculum that the National Tuberculosis Association is publishing this volume.

The enthusiastic response of teachers throughout the country to "Health Training in Schools," a handbook for teachers published by the National Tuberculosis Association in 1923, is proof of the widespread interest in health education, and it is hoped that this book will help to meet the increased demand for supplementary material which has been stimulated by the former volume.

LINSLY R. WILLIAMS, M. D.,
Managing Director,
National Tuberculosis Association.

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PART I

Suggestions for the Teacher of Health

The Teacher's Personal Problems.
Important Phases of Health Education.
Some Difficult Subjects in Health Education.
Methods and Materials for the Teacher of Health.

INTRODUCTION

The Vision of Health Education

Surely Lincoln's plea that "Our country shall guarantee to all an unfettered start and a fair chance in the race of life," is in the process of realization for never before in the history of America have there been so many humanitarian factors so efficiently, so effectively at work. Health Education is the most practical expression of this new Renaissance that has worked its way upward through the consciousness of an idealistic people who have not found happiness through extraordinary activity along physical and intellectual lines for material gain, but who see peace,—maybe, "utmost gladness"—in life for their children, through a sane training in physical, mental, and spiritual health. That such training will in time lead them to be "balanced individuals—men and women, in whom body, mind and soul form one exquisite harmony," with themselves, their fellowmen, and their God, is the truest vision of "Health Education."

The Practical Aim of Health Education

The general aim of education has been variously defined; by the Epicurean who believed it would bring happiness; by the moralist who thought it would bring goodness; by the book lover who fought for "knowledge for knowledge sake;" by the utilitarian who saw its economic value; by the social worker who sensed its need in order to give greater understanding in social service; by the true educator who worked through it for the growth, development, unfolding, and adjustment of the individual child in his environment. Since all of these are worthy aims, there is little wonder that the practical idealists of the twentieth century have searched and found a sane basis for the realization of all of them—namely—health education. While the ultimate aim of health education is a healthy, happy, efficient member of society, for practical purposes we may give its specific goal as the training of the child in healthful behavior—physically,

mentally, emotionally, and socially healthful behavior. This goes a step further than Dr. Abbott, who believes the end of education is, "to form worthy desires," for it adds to his ideal a nervous system trained to express worthy desires in daily actions.

The Scope of Health Education

Dr. Thomas D. Wood has defined health education as "the sum of experiences in the school and elsewhere which favorably influence habits, attitudes and knowledge related to individual and community health." With this definition before us it is easy to see that health education is as broad as life itself for it includes not only the individual health problems of the child, but it includes all his human relationships—personal, family, community, national, worldwide. In planning to meet these needs of the child health education has developed a comprehensive program which embraces every available contact and measure that may contribute to better health and citizenship. The most important of these are:

1. Health legislation (home, school, industrial and public health laws.)
2. School hygiene, including sanitary, hygienic, and safe conditions in school buildings, and on school grounds; sufficient play space; school feeding; and hygienic instruction.
3. School health supervision with adequate provision for the correction of individual physical defects. (Full time school physician and nurses, dental clinics; ear, eye, nose, and throat clinics; speech and mental clinics).
4. Special classes for the various groups of handicapped children.
5. Physical education, including supervised play indoors and outdoors, athletics, corrective gymnastics, relief drills, rhythmic interpretation, folk dances.
6. Safety education.
7. Health instruction and training in school and outside of school.
8. Child study clubs for parents and teachers.

Organized Workers for Health

The number of organizations working for health are so numerous that it is difficult to know when a list is complete. The National Health Council now has nine active members, namely—American Child Health Association, American Heart Association, American Public Health Association, American Social Hygiene Association, Conference of State and Provincial Health Authorities of North America, National Committee for Mental Hygiene, National Committee for the Prevention of Blindness, National Organization for Public Health Nursing, National Tuberculosis Association. The American Society for the Control of Cancer, and the Women's Foundation for Health are associate members of the Council, with the American Red Cross, the United States Children's Bureau, and the United States Public Health Service as advisory members.

Other outstanding organizations are, the American Medical Association and the National Education Association with their Joint Committee on Health Problems in Education, the American Playground and Recreation Association, the American Posture League, the National Congress of Parents and Teachers, and the General Federation of Women's Clubs.

All of the more progressive schools—elementary schools, high schools, colleges and universities should be added to this list for they are developing health education programs for their students, as rapidly as possible.

The Purpose of this Book

This volume has not been written for specialists in health education but as a ready reference for busy teachers already in service, and as a text for those in training. However, it is hoped that it may not be restricted to the grade teachers or the normal college field. Supervisors, special teachers of closely related subjects, nurses, Home Demonstration agents, social workers, and parents should find it of service. It has a four fold aim:

1. To present in a concise, simple, untechnical way the accepted fundamentals of health education.
2. To interest the teacher in health for herself, for her pupils, and for her community.

3. To give suggestions for further study, sources of materials, and methods for using them in grade work.
4. To outline a program for the grades—one to twelve inclusive, which has been thoroughly tested in these grades.

The Organization of Material

The division into two parts has been for the convenience of the reader. Part One covers the principal needs of the teacher of health. Part Two gives courses of study for health work in the grades. The plan of organization in Part One was gradually evolved to meet the health education needs of teachers in training who have had some preliminary work in personal hygiene as well as courses in biology, chemistry, domestic science and physical education.

The organization of the subject matter for the grade courses of study in Part Two was planned to meet the psychological development of the different age groups, to run parallel with the courses of study in other subjects, to correlate with every other subject on the school program and to prevent the deadly repetition so often found in health work. The author is indebted to many sources for material and devices but the main concept of the program for the grades like that for the teacher is original. The courses of study were evolved for and tested upon a group of three hundred children in the Practice School of the Georgia State College for Women at Milledgeville, Ga., 1917–1920.

While the general plan of study has been in operation several years, (1919–1925) a careful survey of the personnel of each grade is made at the beginning of every school year, so that changes may be made to meet the specific needs of the children in each group. The methods used follow the project-problem plan, therefore the children themselves are ever broadening the field of their activities. New ideas, materials, and methods of approach are also added to prevent monotony in the teacher's work. In truth the health work as outlined in this book is ever seeking to bring health education closer to the life of the child. If it helps in any way the great health education movement, it will have served the purpose for which it was written.

To the Normal College teacher. The following outline suggests the contents of a required indexed notebook for normal students.

The writer varies the requirements for the students but always uses a large loose leaf notebook with regulation gray indices. The forms of self-activity suggested may also be supplemented by various other class activities, surveys, field trips, discussions, demonstrations, dramatizations, stories, songs, etc.

A. Parallel References. (Required).

1. Andress, J. Mace. "Health Education in Rural Schools." Houghton Mifflin Co., Boston, pp. 321.
2. Ayres, Leonard P. and May. "Health Work in the Public Schools." Cleveland Foundation, Cleveland, Ohio, or Russell Sage Foundation, New York. pp. 59.
3. Ayres, Williams, and Wood. "Healthful Schools." Houghton Mifflin Co., Boston. pp. 292. or
4. Dresslar, Fletcher B. "School Hygiene." The Macmillan Company, New York, pp. 367.
5. Hill, H. W. "The New Public Health." The Macmillan Company, New York, pp. 206.
6. Terman, Lewis M. "Hygiene of the School Child." Houghton Mifflin Co., Boston, pp. 417.
7. Selected State Syllabi of Physical Education, Hygiene and Safety Education, for example:—Georgia, New Jersey, New York, Ohio, Oregon, Colorado, Utah Syllabi.
8. Selections from Educational Journals for example:—Hoefer, Carolyn. "Increasing the Efficiency of Health Instruction in Public Schools." Elementary School Journal, Sept. 1921.
9. Selected Reports, State and Government Bulletins, for example:—The Health Education Series, U. S. Bureau of Education. (For references for individual assignments, see references at end of each chapter.)

B. Book review. (One book from following list.)

1. Angell. "Play," Little, Brown & Co., Boston.
2. Cook. "The Play Way," Frederick A. Stokes, New York.
3. Lee. "Play in Education," The Macmillan Company, New York.

4. Johnson. "Education in Plays and Games," Ginn & Co., Boston.

C. Floor plan of a model one-teacher school, a consolidated rural school, or a city school.

Directions: (1) Use regulation size mechanical drawing paper; (2) draw according to scale and sketch in requirements of model school grounds; (3) indicate which way the building faces, placing of windows, seats, blackboards, teacher's desk, heating plant, drinking fountain or cooler, water for bathing, first aid cabinet, cabinets for hot school lunch equipment, domestic art materials, manual training tools, rest room, and library, according to the size of the plant. Thought questions to be discussed in class: What practical suggestions could you offer for the improvement of the typical old fashioned one-teacher school? What would you do if you were in charge of one? If you were chairman of a school building committee, what would you insist upon in location, construction, equipment, and care of the school plant? What relation does the school janitor hold to the healthfulness of the school?

References:

1. Andress. (as above.)
2. Ayres. Williams & Wood. (as above.)
3. Dresslar. (as above.)
4. Putnam. "School Janitors," American Academy of Medicine Press, Easton, Pa.

D. Health habits. (To be kept in diary form for one month.)

References: Text, Chapter X. Andress, "Health Education in Rural Schools," Chapter XI. Hoag and Terman, "Health Work in the Schools," Chapter XIV. King, "Rational Living," Chapter VI; James' Maxims on habit, pp. 85–90. Broadhurst, "Home and Community Hygiene," pp. 271.

E. Individual assignment. (To be prepared and given orally before class, notes to be included in notebooks.)

Topics chosen to vitalize every chapter in text, for example: Chapter II. "Diseases Prevalent Among Teachers."

References: Terman, "The Teacher's Health." Hoag, "The Health Index of Children," Chapter IX. "The Need of 'Surplus Energy' Among Teachers: A Practical Program." Carroll, "The Mastery of Nervousness." Call, "Power Through Repose." James, "Talks to Teachers," pp. 199–228.

Chapter IV. "The New School Plan: Effect on the Health of the Child."

References: Dewey, "Schools of Tomorrow," E. P. Dutton & Co., New York. Wells, "A Project Curriculum," J. B. Lippincott Co., Philadelphia.

Chapter IX. "The Significance of the Direct Connections of all the Organs of the Body: Examples of Physical, Nervous, and Chemical Connections."

Ref: Stiles, "Human Physiology." Martin, "The Human Body." "The Inter-Relatedness of Man—Body, Mind, Spirit." King, "Rational Living." Cannon, "Bodily Changes in Pain, Hunger, Fear and Rage."

F. An original health story, playlet, project, or three consecutive lesson plans. (Illustrative material and suggestions for self-activity of pupils to be included.)

References: Krackowizer, Alice M., "Projects in Primary Grades," J. B. Lippincott Co., Philadelphia. Lull and Wilson, "The Redirection of High School Instruction," J. B. Lippincott Co., Philadelphia. Wells, Margaret E., "A Project Curriculum," J. B. Lippincott Co., Philadelphia. Recent Health and General Educational Periodicals.

G. Individual or group contributions to annual health exhibit. (Charts, models, sand table problems, demonstrations, etc.)

H. Written report on observation of health work in practice school.

I. Individual and group conferences with director of health in the grades. (For every student doing practice teaching in health in the practice school.)

J. Class notes on
   1. Principles of health education.
   2. Methods in health education.
   3. Materials for health education.
   4. Outline report on class or individual surveys, or field trip.
   5. Addresses, etc.

To the grade teacher. It is the hope of the writer that this volume may help to fill the need for organized courses of study for the grades and the grade teachers. Adaptation will always be the key-note to successful application of any course of study in health, for what will inspire one group will not even interest another group, much less meet its needs. To make this application the teacher must be in possession of certain definite facts relating to her own problem, namely, (1) the needs of the community in which she is to teach; (2) the needs of the school plant that she is to use; (3) the needs of each individual child she is to teach; and (4) her own needs (preparation).

CHAPTER I

WHO IS TO ACCEPT THE RESPONSIBILITY FOR THE TEACHING OF HEALTH

"Teaching is a profession, not a business, and must therefore be judged from a standpoint of service."—W. HOWARD PILLSBURY.

Placing the responsibility for the teaching of health. There is no longer a question as to the wisdom of giving health a regular and prominent place on the school program, but there are many problems to be solved before it becomes a universal success on that program. The first of these problems is, who is to accept the major responsibility for this new subject? In answer to this question some may suggest that the task should be given to a specially trained health director, health supervisor or to the school nurse. The value of these specialists is unquestioned. Wherever they are employed their daily, weekly, or monthly visits to the class-room, their suggestions to the teachers, the coördination of all phases of health work by the director or supervisor and the home work of the nurse have been found most helpful. However, they are not available in many places and will not be for years; and where they are available it is not possible for either of them to be in any one grade for the entire school session. Here it should be remembered that health can not be considered a period subject, but is rapidly becoming the warp and woof of the entire school program. Naturally then, the chief responsibility for both health instruction and health training should fall on the class-room teacher who is on the job all school hours every school day.

The class-room teacher, strategically situated to accept the responsibility for health education. There are many reasons why the class-room teacher should have the major responsibility for health work in the schools. (1) A successful health education program necessitates a thorough study of each child. The class-room teacher has more hours of close association with the school child than

any one except the child's mother. This gives her an opportunity for a careful and sympathetic study of each child's needs that is not offered to any other person outside the home. (2) Since health is a new subject in our schools and a subject that is closely interwoven with the child's home life, it should be in the hands of trained leaders. The teacher's position carries with it the possibility of this type of leadership and her tact and persistence is invariably responsible for the necessary coöperation of the parents. (3) The development of healthful behavior is the chief aim of health education. The occasional health talks from outside lecturers, no matter how interesting, are not sufficient stimuli for the formation of health habits. Habits of any kind are a matter of repeated action, and it is only through a carefully planned hour to hour schedule that the teacher is able to drill the children in the many health habits that are essential to their best development. (4) Some of the most valuable health instruction is given in correlation with other subjects in the curriculum. The teacher is usually dictator in her school-room procedure. This gives her a chance to use every available opportunity for health work. (5) The other members of the health supervision corps, the medical inspector and the school nurse, are dependent upon the teacher's intelligent coöperation for the success of their work. Especially important is her coöperation in detection and exclusion of communicable diseases, and in the detection of remedial defects and the follow-up work for their correction. (6) Janitors are rarely trained and the cleaning as well as the ventilation, heating, seating, lighting and water supply of every school need intelligent supervision. Again the class-room teacher's position makes her the natural sanitary inspector and supervisor of school hygiene. If she is trained to meet this responsibility along with that of the hygiene of the school child she has a limitless fund of first hand material that will interest the children because of its direct connection with their daily lives.

The training of the class-room teacher for the teaching of health. If the class-room teacher is to assume her responsibility in the teaching of health, she must have adequate training in normal school or in a university offering specific courses in personal hygiene, school hygiene, public health, methods of teaching health habits, organization of courses of study, correlation of health with other sub-

jects, and such related subjects as nutrition and biology. This training of the teacher for the teaching of health will show her the unlimited opportunity to observe, to protect, and to foster the health of her pupils. It should also teach her that incorporating health in the curriculum is not adding another burden to an already over-crowded schedule but that it is rather the means for unifying and vitalizing the whole school program.

Topics for Class Discussion

1. Let each student report on the health work in his or her own school. If interesting work is noted, who was responsible for its installation and development?

2. Discuss the class-room teacher's part in the health education program. What other groups and individuals are needed in this work?

3. Does the teacher in your state have any legal authority in school health problems? If not, in what cases does she need legal authority?

4. What normal schools, colleges and universities in your state emphasize health training? What specific courses are offered in health education, physical education, safety education, nutrition, and other kindred subjects? Which of these institutions give the greatest emphasis to this work in their summer schools?

CHAPTER II

THE TEACHER'S OWN HEALTH PROBLEMS

"The ideally effective teacher of hygiene will be a teacher who literally enjoys good health, who willingly and religiously practises the health habits offered to the children, and who demonstrates in appearance and by vigor and good nature the beneficent effects of good health conduct."—ROBERT G. LEAVITT.

The teacher's health. Good health should be a fundamental personal qualification of all teachers for the healthy teacher possesses the basic characteristic of a good teacher—she is a cheerful, calm, patient, fair-minded, enthusiastic, encouraging personality. The example set by the healthy teacher and the wholesome atmosphere of her schoolroom is absolutely necessary for a successful health education program. Therefore education and legislation for higher standards of physical efficiency in the teaching profession should receive first place in teacher training institutions and in qualification for certification.

Teacher training institutions can assist in the solution of the problem by safeguarding and developing the health of the student teacher. Many of these institutions have already adopted a practical program consisting of (1) a complete health examination of each student with needed follow-up work; (2) a healthful program of living; (3) direct instruction in personal hygiene. This triple program is usually sponsored by the physical education department or by the coöperation of the physical education department and health department when these departments are under separate heads. The most successful programs offered are in those institutions where the administration has not only given its enthusiastic support to the work of the above departments but has given much time to the planning of better living conditions, and to the organization of more practical courses of study in which health, home economics and other subjects planned to meet the life needs of young people, are given college credits. In these institutions the close correlation of health with the

subject matter of the other college departments, particularly such related departments as biology, chemistry, and home economics is an expression of good team work, the kind of team work that gives a great impetus to the development of the "art of fine living" among the students and among the members of the faculty.

Fortunately, a realization of the importance of medical inspection of teachers as well as medical inspection of children is spreading rapidly. Many state laws provide for the examination of the children, the teachers, and the janitors as well as the school plants. Pennsylvania school laws will not grant a teacher's certificate unless the applicant submits a certificate from a legally qualified physician, setting forth that the applicant is "neither mentally, physically, nor morally disqualified for the successful performance of the duties of a teacher." This section provides further that "No person having tuberculosis of the lungs shall be a pupil, teacher, janitor, or other employe in any school, unless it be a special school carried on under regulations made for such schools by the Commissioner of Health." * In case of the teacher's absence from duty on account of sickness, the board of school directors in Pennsylvania may make payment of compensation, provided that the teacher furnishes a physician's certificate "stating the nature of the sickness and certifying that he or she was unable to perform duties as a teacher." * There is also a section in this law which provides for teacher's retirement, and for annual allowance on disability under certain conditions.

Connecticut has a law that leads in training healthy teachers. Every applicant for admission to state normal schools is required to take a thorough physical examination conducted by physicians employed by the state. If the prospective student fails to pass the examination, she is either rejected or she is accepted on the condition that her defects be corrected in seven months' time. If the applicant is accepted with certain remedial defects or diseases, she signs a pledge card that she will either remove the handicap or accept her dismissal from the state normal school.

The teaching profession has not been regarded as a healthful profession. Dr. Sigel's Leipsic investigation in 1895 showed 42.8 per cent of the teachers were suffering from definite diseases, mostly affections of the lungs, heart, throat, or nervous

* Section 1509. School laws and decisions of Pennsylvania.

system. In 1904 Dr. Burnham received five hundred replies to his questionnaire sent out to teachers in two New England and one Middle Western City. In these replies 37.4 per cent of the teachers stated that their health had been injured by conditions in the schoolhouse or its surroundings. Dr. Terman's intensive survey of the teacher's health* in 1913 showed that while the mortality in general was relatively low in the teaching profession, the morbidity was relatively high. Recent investigations show a gradual improvement in the health of teachers but the improvement has not yet reached the high mark of physical efficiency that the educational profession should demand of itself.

Conditions unfavorable to the teacher's health. Unfavorable conditions in the teaching profession include dangers both to the teacher's mental and physical health. Among these dangers are (1) the indifference of teachers to their own personal hygiene, and their ignorance or indifference to bad school-room conditions such as dust, poor ventilation and heating, inadequate lighting, incorrect seating, etc.; (2) long hours of sedentary profession with its resultants, poor elimination, poor respiration and circulation; (3) overwork caused by overcrowded rooms, endless paper work including frequent overdetailed reports to superintendents; (4) nervous strain of overstrenuous training for the profession followed by exhaustive school discipline, excessive standing, constant use of voice and eyes; (5) the monotonous repetition of the average school program; (6) the dwarfing tendency of dealing constantly with immature minds; (7) insufficiency of salary; and (8) lack of wholesome recreation.

The list of conditions unfavorable to the personal health of a teacher looks formidable when compiled but health training for teachers, improvement in school hygiene, and in school programs would eliminate most of the unfavorable conditions enumerated. After all, if the teaching profession is exhausting and exacting the hours are shorter and the vacations longer and more frequent than in any other profession. Then too, every teacher should feel a tonic effect from the satisfaction of knowing that no other profession except parenthood offers a wider field for service.

Morbidity among teachers a handicap in school work. The extent of the handicap to all school work from excessive mor-

* Terman, L. M. "The Teacher's Health." Houghton Mifflin Company, Boston.

bidity among teachers is a matter for careful consideration by all employers of teachers. Superintendents who have made recent surveys of the problem say that not only individual children are retarded by use of the substitute system but that sometimes the retardation of a whole grade can be traced to the absence of the sick teacher. This is not the whole story of the serious handicap imposed on the school child by the physically unfit teacher, for sickness causing lost time is but a small part of the actual sickness in the profession. As Rittenhouse says, "Most of the sick people are not on their backs, but on their feet at work." Terman estimated that between a quarter and a half million of our school children are being daily instructed by teachers who are caught in the grip of the "Great White Plague." * He advises further that while this is a terrible menace to the child "the teacher who dwells always in the abyss of despair and gloom or tingles with nervous hypersensitiveness is dangerous in almost equal degree." *

The encouraging outlook for better health among the teaching corps. With law and public opinion steadily increasing the demand for a higher physical efficiency from the teaching profession; with normal schools offering and requiring more adequate training in the various phases of health education, there is no excuse for a continuation of personal habits among teachers that beget illness. In addition to the above factors there is encouragement in the fact that teachers themselves are beginning to feel that good health is a personal asset.

"To man, propose this test—
Thy body at its best,
How far can that project thy soul on its lone way."

Personal Health Questionnaire for Teachers.

1. Do you have a thorough medical examination once a year?
2. Do you attend promptly to correction of defects found by examiner?
3. Do you visit your dentist at least twice a year?
4. Do you protect your vision?

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* Terman, Lewis M. "The Teacher's Health." Houghton Mifflin Company, pp. 3, 5.

5. Do you get sufficient sleep and rest?

6. Is your school healthful in location, construction, equipment, and care?

7. Is your playground adequate in size, location, equipment, safety? It it used to best advantage for the children? Do you take part in the games at recess?

8. Do you take part in the recreation program of your pupils out of school hours? Have you helped with the Boy Scout, the Girl Scout, and the Campfire or other outdoor activities of the young or adult groups in your community?

9. Have you an avocation? Is it healthful?

10. Are you vitally interested in your school health program?

11. Do you practice the health habits you attempt to teach?

12. Do you practice all of "The Sixteen Rules of Hygiene?" *

I. Air.
   1. Ventilate every room you occupy.
   2. Wear light, loose and porous clothes.
   3. Seek out-of-door occupations and recreations.
   4. Sleep out, if you can.
   5. Breathe deeply.

II. Food.
   6. Avoid overeating and overweight.
   7. Eat sparingly of meats and eggs.
   8. Eat some hard, some bulky, some raw foods.
   9. Eat slowly.

III. Poisons.
   10. Evacuate thoroughly, regularly and frequently.
   11. Stand, sit and walk erect.
   12. Do not allow poisons and infections to enter the body.
   13. Keep the teeth, gums and tongue clean.

IV. Activity.
   14. Work, play, rest and sleep in moderation.
   15. Keep serene.
   16. Be cheerful and wholehearted.

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* Fisher & Fisk, "How to Live." Copyrighted by and used through the courtesy of Funk & Wagnalls.

Topics for Class Discussion.

1. Make a survey of the time lost because of illness among the students and faculty of local schools. Tabulate causes and seasons of greatest amount of lost time.

2. What local condition or conditions have had probable or direct bearing on above data?

3. What improvements can be suggested that will help change these conditions? How can they be presented in a tactful yet forceful manner?

4. Make a list of health habits that should be encouraged in the student body. Choose those that are most needed and formulate procedure for developing them. Have weekly report on progress made. (Good posture drive makes an interesting introductory problem.)

5. Have each student choose a needed health habit and report on progress made according to outline of Health Diary given in Chapter XV.

6. Write to U. S. Public Health Service and U. S. Bureau of Education for recent data on health of the teacher.

7. Give individual assignments from references at end of Chapter.

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CHAPTER III

TEACHER-RATING AS A MEANS OF STANDARDIZING HEALTH EDUCATION

"The doing of things necessary for the getting and conserving of good health is the real standard of achievement."—Dr. J. Mace Andress.

The need of teacher-rating in health education programs. The biggest problem in health education today is how to increase the efficiency of the teaching corps. Definite means for guiding, standardizing, and measuring the teacher's work are particularly needed. The supervisor's rating card for the teacher of health and the health teacher's self-rating cards included in this chapter have been found to be effective in stimulating both supervisor and practice teachers and have improved materially the quality of the work done.

How to use the teacher-rating card in health work. Before distributing the teacher-rating forms the supervisor should give a detailed explanation of their use in conference with the teachers where free discussion should be encouraged from the teachers. For teachers in the field there should be at least four personal conferences with their supervisors during the school year. If there is no supervisor there should be at least that number of personal checkings by the self-rating card form. Weekly conferences with normal college student-teachers doing health work on an eight week assignment are essential. With this group the rating-card forms should be used three times on each assignment, at the beginning of the assignment, at the end of the first four weeks, and again at the end of the eighth week. Duplicates of these forms should be kept in the student-teacher's note book and used again on the second assignment. Originals should be kept on file for reference by the principal of the practice school, and the director of the teachers' agency. In scoring a teacher's record, two checks ($\surd\surd$) means excellent, one check

(√) means satisfactory, (×) needs more attention, (××) failure. The actual percentage varies so widely with different supervisors and teachers, that this is left to the judgment of the individual doing the scoring.

To develop further interest and efficiency among the teaching corps, it is suggested that class work in personal hygiene, applied physiology, and physical training should be organized for developing healthful behavior among the teachers themselves. Regular study classes should also be organized where subject matter and methods in health education are discussed. In case regular class instruction is not available reading courses should be encouraged.*

Supervisor's Rating Card for Health Teacher

(May be used as rating card for regular grade teacher in her health work.)

Name ..... Date .....

School ..... Grade or Grades .....

.....

	1	2	3	4	Rating
I. Personality					
1. What is the health of the teacher?	...	...	...	...	...
2. Is the teacher immaculately clean and neat?	...	...	...	...	...
3. Is the teacher's posture good?	...	...	...	...	...
4. Is the teacher's voice, is her manner attractive?	...	...	...	...	...
5. What is the teacher's attitude toward her work?	...	...	...	...	...
II. Teaching Ability					
1. Is the teacher skilful in stimulating interest of her pupils?	...	...	...	...	...
2. Is the teacher skilful in guiding her pupils?	...	...	...	...	...
3. Does the teacher develop the initiative of her pupils?	...	...	...	...	...
4. Does the teacher ask thought provoking questions?	...	...	...	...	...
5. Does the teacher use effective illustrative material?	...	...	...	...	...
6. Does the teacher get the coöperation of her pupils?	...	...	...	...	...
7. Does the teacher get results from her instruction?	...	...	...	...	...

* See outline for required references in Introduction of this volume.

	1	2	3	4	Rating
8. Is the teacher's time division for class work, relief drills, fire drills, and play wisely arranged?. . .	...	...	...	...	...
9. Does the teacher take part in the recreational program of her pupils? Does she take part in relief drills and in the games at recess? Are the windows open during all drills, during recess?. . .	...	...	...	...	...
10. Are the teacher's methods good?.	...	...	...	...	...
11. Is the atmosphere of the class-room happy and orderly?.	...	...	...	...	...
12. Does the teacher know the parents of her pupils?. . .	...	...	...	...	...
III. Scholarship					
1. Has the teacher had special training in health and physical training?.	...	...	...	...	...
2. Has she had sufficient training to be a safe and sane instructor?.	...	...	...	...	...
3. Has she a background of general information and culture?.	...	...	...	...	...
4. Does she adapt subject matter to the needs and interest of the pupil?.	...	...	...	...	...
5. Does the teacher know the home conditions of her pupils?.	...	...	...	...	...
6. Is the teacher ambitious to improve professionally?. . .	...	...	...	...	...
7. Does the teacher make an effort to improve her scholarship by reading?.	...	...	...	...	...
8. Does she take one standard health periodical, as "The American Journal of School Hygiene;" "The Playground;" "The Child Welfare Magazine;" or "Hygeia?".	...	...	...	...	...
9. Does she attend teachers' meetings, parent-teachers' association meetings and take part in them?.	...	...	...	...	...
10. Has she attended summer school within two years?. . .	...	...	...	...	...
IV. Suggested Improvements					
1. Better regulated physical routine.	...	...	...	...	...
2. More cheerful mental attitude.	...	...	...	...	...
3. More tactful, coöperative and loyal.	...	...	...	...	...
4. More concentrated professional training.	...	...	...	...	...
5. Better methods.	...	...	...	...	...
To Be Considered					
1. Number of teaching hours.	...	...	...	...	...
2. Number of pupil periods.	...	...	...	...	...
3. Number of hours spent in preparation.	...	...	...	...	...
4. Amount of paper work.	...	...	...	...	...
5. Salary. . .	...	...	...	...	...

Health Teacher's Self-Rating Card

Name ..... Date .....

School ..... Grade or Grades .....

.....

	1	2	3	4	Rating
I. Personality					
1. Is my general health good?	...	...	...	...	...
2. Is my posture good?	...	...	...	...	...
3. Is my speaking voice and manner attractive?	...	...	...	...	...
4. Am I neat and immaculately clean—body, hair, nails, teeth, clothing?	...	...	...	...	...
5. Do my pupils like me?	...	...	...	...	...
6. Do my patrons like me?	...	...	...	...	...
7. Am I sociable?	...	...	...	...	...
8. Am I coöperative and tactful?	...	...	...	...	...
9. Am I cheerful?	...	...	...	...	...
10. Am I just?	...	...	...	...	...
II. Teaching Ability					
1. Am I skilful in stimulating wholesome and constructive interests in my pupils?	...	...	...	...	...
2. Am I skilful in guiding my pupils?	...	...	...	...	...
3. Do I develop the initative of my pupils?	...	...	...	...	...
4. Do I ask thought-provoking questions?	...	...	...	...	...
5. Do I give sufficient time and attention to the formation of health habits, (mental, physical, emotional and social)?	...	...	...	...	...
6. Do I get the cheerful coöperation of my pupils?	...	...	...	...	...
7. Do I use effective illustrative material?	...	...	...	...	...
8. Do I get good results from methods used?	...	...	...	...	...
9. Is my time division for classwork, relief drills, fire drills, play, etc., wisely divided?	...	...	...	...	...
10. Is my class-room clean, orderly, cheerful?	...	...	...	...	...
III. Scholarship					
1. Have I had sufficient training to be a teacher of health?	...	...	...	...	...
2. Have I a background of general information and culture?	...	...	...	...	...
3. Do I know enough child psychology to apply subject matter to the child's needs and interests?	...	...	...	...	...
4. Does my information on health subjects include the needs of the individual children in my care, and their home conditions?	...	...	...	...	...
5. Am I ambitious to improve my professional efficiency?	...	...	...	...	...
6. Do I make an effort to improve by reading? Have I added at least one good health reference and many free and inexpensive health bulletins to my own library?	...	...	...	...	...

	1	2	3	4	Rating
7. Do I take one standard health periodical?..	...	...	...	...	...
8. Am I on the free mailing list of federal and state departments of health, national organizations for the promotion of health?..	...	...	...	...	...
9. Do I attend teachers' meeting, parent-teachers association meetings and take part in them?.....	...	...	...	...	...
10. Have I attended summer school within two years?.	...	...	...	...	...
IV. Results					
1. Do I use the school plant to its best advantage for ventilation, light, heating, seating, recreation? Is it clean and orderly?.....	...	...	...	...	...
2. Have I been instrumental in improving sanitary conditions in my school?.....	...	...	...	...	...
3. Have I encouraged outdoor play, games, relief and fire drills? Have I made them worthwhile?.	...	...	...	...	...
4. Have I helped the school lunch problem?....	...	...	...	...	...
5. Have I made an individual health survey of every child under my care? Have I kept monthly records and have I made every effort to get defects corrected?.....	...	...	...	...	...
6. Have I weighed and measured children every month?.....	...	...	...	...	...
7. Have I kept a class record of progress made in study of hygiene, has it been satisfactory?	...	...	...	...	...
8. Have my students made satisfactory progress in health habits?.....	...	...	...	...	...
9. Have my pupils actually constructed enough health problems to make an interesting exhibit for their grade?.....	...	...	...	...	...
10. Have I had the interest and the coöperation of the children, parents, and community in my health work?.....	...	...	...	...	...

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CHAPTER IV

SCHOOL HYGIENE

"It is the business of teachers to guard and promote the health of the children committed to their care during school hours, as well as to instruct them in various branches of a school curriculum. Teachers must know what constitutes healthful conditions in order to be able to manage and to direct the children accordingly."—Dr. Fletcher B. Dresslar.

School hygiene defined. The term school hygiene is applied to that organized body of facts concerned with the healthful physical environment of the school child and the conduct of healthful school activities. Under it are included such subjects as the location, construction, equipment, fire protection, lighting, ventilation, sanitation and cleaning of the school plant; health supervision, physical education activities, outdoor classes, classes for exceptional children, hygiene of instruction, and school feeding.

Some of the above topics are briefly discussed in this chapter and some are given more detailed discussion in subsequent chapters. However, school hygiene is a large and well developed study and the purpose of this chapter is to introduce the student of school hygiene to some of its more important phases and to offer a few suggestions for checking the school plant. For more detailed study, the reader is referred to the following texts, Dresslar's "School Hygiene" revised edition, published by the Macmillan Company, New York City, and Ayres, Williams and Wood's, "Healthful Schools," published by Houghton Mifflin Company, Boston, which are admirably suited to class or home study needs of the teacher, the superintendent, parent or school truste

The teacher's responsibility for the healthfulness of her own school. Every teacher should make a study of school hygiene and have at least one good school hygiene reference on her library shelves, for there is no school situation so poor that it cannot be improved by an ingenious teacher who has been trained or who has trained herself to see and to meet the common demands for a

healthful school. Again there is no school plant so perfectly equipped that it cannot be abused or at least ineffectively used by an ignorant or careless teacher. For example, a trained teacher will fit old-fashioned oversized or undersized desks to the child by means of blocks or saw skilfully applied while an untrained or careless teacher will overlook the careful adjustment of the best type of adjustable seats and desks. Again a trained teacher working in a class room with windows on four sides will remove the danger of eye strain resulting from having the children face the light and of cross lights and shadows by adequately covering the front windows and those on the right side of the pupils, thus leaving the windows in the left and rear if the size of the room or the arrangement of the glass area makes bilateral lighting necessary. She will place her own desk in such position that she will not be subjecting herself to the nervous strain of facing the light.

If trees interfere with obtaining good lighting conditions, she may be able to overcome this difficulty by having the lower branches cut without sacrificing the trees.

The culpable neglect of the school plant in many places is a stigma on the intelligence and energy of the teaching profession and on the board of education. The only solution of the problem is in an awakened and enlightened consciousness among teachers themselves. This can be achieved only by adequately trained teachers who are willing to make a careful health survey of their own schools.

The teacher's survey of her school room, or school plant, if she is in charge of the whole school, should be made before school opens. Therefore the teacher should plan to arrive in her school community several days before school opens. If the plant is a model one, careful cleaning may be the only necessary preparation for the opening of school. If, however, the plant is old, in bad repair, or otherwise imperfect, the teacher will need more time to get acquainted with the members of the school board and to secure their cooperation. A tactful request that they go over the plant with her and help her to make plans for a better school will invariably result in immediate attention to repairs, water supply, and toilets. If a teacher possesses tact and persistence backed by energy and practical ideas she will soon see all the graver school needs met.

Health standards for schools. "Minimum Health Require-

ments for Rural Schools" prepared by the Joint Committee of the National Education Association and the American Medical Association makes an excellent standard by which rural schools may be checked. These requirements may be found in Chapter II of Andress' "Health Education in Rural Schools" or in pamphlet form from the Joint Committee.*

A score card for rural schools has been issued by "The Farmer's Wife" and may be secured by writing to "The Farmer's Wife," St. Paul, Minnesota.

The location of the school. The first problem to be met by school hygiene is the location of the school. In many places local feeling and prejudice make this a difficult problem to solve but the school board should be firm in demanding accepted standards.

The first requirement for a school is a healthful and safe location. A school should not be placed near inflammable structures, railroads, street cars, or highways, or immoral places because of danger, noise, and dirt. Again a school should not be located near tall buildings or large trees that interfere with light, direct sunshine, and ventilation.

Accessibility is another requirement for location of a school. Two miles should be the maximum if the children walk and six miles if they ride. Contrary to this accepted rule many country children walk three or four miles to their little one teacher school or ride ten, fifteen, and sometimes even twenty miles in crowded school trucks, trains, or trolleys to the consolidated school. Recent surveys of the scholarship and physical fitness of children who have to go such distances either on foot or in school trucks show that the physical, nervous, and emotional strain on the child invariably incapacitates him for good school work and also interferes with his normal development. The required amount of sleep and the possibility of having regular hours for meals may be seriously interfered with by the necessity of leaving early and returning late, while home life duties and ties are so interfered with that serious social results are being noted. As Dr. Nicholas Murray Butler says "The home must not abdicate in education unless the whole basis of our civilization is radically to change."

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*Obtainable from the National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C. Price 10c.

The third requirement for the location of a healthful school is good drainage and fertile soil. The school grounds should be well drained either naturally or artifically. The soil should be fertile—suitable for school gardens and flowers. Dr. Dresslar recommends "a pure, sandy or gravelly loam," which offers opportunity for playgrounds and gardening. The playground itself should be from three to ten acres. The school buildings and all their environs over which school board has control should present an attractive appearance in accordance with the best ideas of neatness, orderliness and beauty.

The school water supply and sewage disposal. The water supply and toilet facilities of a school are so closely related that it is quite impossible to separate them in any school plant. If the school has its water supply from the city or town water mains or from a driven well there is almost invariably a water carried system for sewage disposal. If the school has outdoor toilets, there is the constant and urgent need for protection of the local water supply (surface well or spring) from pollution by human excreta from the toilets. In case the school does not have water carried sewage, school trustees and teachers should feel personally responsible that toilets are sanitary in placement, construction, screening and repair. "All excreta should be burned, buried, treated by subsoil drainage, reduced by septic tank treatment or properly distributed on tilled land as fertilizer." *

To be assured of a pure water supply the water should be analyzed frequently by the state health department or the local health officer. This is done free of charge and is an invaluable precaution, for all diseases spread by human excreta may be carried in water, for example, typhoid fever, tuberculosis, hookworm, round worm, eelworm, tape worm, dysentery and Asiatic cholera. Unfortuntely these contaminations do not announce themselves for badly polluted water is frequently clear, sparkling, odorless and of pleasant taste. But the water supply may be pure at its source and become contaminated before it is drunk. To prevent this, sanitary drinking fountains or clean closed coolers and paper drinking cups should be used. The children themselves should be taught the rea-

*Minimum Health Requirements for Rural Schools, by Joint Committee of N. E. A. and A. M. A.

son for pure water supply and given an opportunity to assist in protecting the supply whenever it is possible.

Water for washing is another live school problem. Great stress is being placed on the formation of health habits for the school child and among the first of these is the clean hand habit. Therefore adequate facilites for washing the hands should be available. Clean individual towels should be included in these facilities. These may be furnished by the children, but paper towels are cheaper and should be furnished by the school.

In the city or consolidated school furnished with a regular water system the washing water facilities are not difficult to install and maintain but in the rural school ingenious planning is necessary. One clever rural teacher solved the problem by using an old pipe and a funnel. The pipe was closed at both ends and a pipe cutter was used to bore one hole on top of it for a funnel while a number of holes about eighteen inches apart were made on the opposite side of the pipe. Next the pipe was mounted on convenient posts about waist high for the younger children near the well and over the trough. With the funnel attached and water poured from a well bucket into the pipe, the children had the advantage of a steady stream of water for washing their hands.

Lighting the schoolhouse. Correct lighting conditions are of utmost importance in the construction and maintenance of school buildings. To make available the results of scientific research, the Illuminating Engineering Society published in 1918 a Code of Lighting School Buildings. Improvements in lighting practice in the ensuing years made a revision necessary. Twenty interested organizations cooperated in this work which resulted in a new edition prepared and issued under the joint sponsorship of the Illuminating Engineering Society and the American Society of Architects, and approved by the American Engineering Standards Committee June 16, 1924.

Since this code is somewhat technical a subcommittee prepared from its data two pamphlets for the use of teachers; one of these is a brief "flyer" "Lighting the Schoolroom;" the other, a very full exposition of the subject, "School Lighting as a Factor in Saving Sight."

From these very adequate bulletins, it will be realized that the

problem of school house lighting is much more than a construction problem. It includes not only the correct placement of windows and of units for artificial lighting, but the maintenance, repair and adjustment of these and their appurtenances: to give a maximum of light with a minimum of glare; the correct color and finish of walls, ceilings and woodwork to produce the best reflective values; the correct placement of blackboards and chart wall space and an intelligent use of the material supplied.

It is a problem requiring for its solution the cooperation of architects, illuminating engineers, school boards and superintendents, principals, teachers, children and janitors.

Ventilating the school. Recent experiments emphasize the fact that good ventilation means cool air (68° Fahrenheit or below); sufficient motion of air to avoid body odors; moist air (the humidity relatively the same as outdoor air); and air free from dust, bacteria, poisonous or offensive fumes. The chemical content of the air, the amount of carbon dioxide, so long viewed as important has been proven unimportant. While breathing stale air does not appeal to the imagination, careful experiment on people doing mental work in vitiated air, does not show any effect on mental efficiency, if the air is cool and moist. However, no health worker recommends breathing stale air, for fresh air is necessary for good health. But the point remains that the stimulating effect of fresh air is the result of its cooling effect rather than its chemical purity.

In attempting to meet the practical problem of good ventilation for the school room it should be remembered that the first and greatest danger is from overheating, the second from dust and bacteria. Overheating the air tends to dry and swell the nasal passages, the membrane becomes red and in time quite irritated, not only lowering the amount of air taken in but lowering the resistance to disease. Careful experiments prove that "Less heat means fewer colds." * Dr. Cornelie Benndorf of the University of Vienna, who has made a recent visit to many schools, colleges, and universities in various parts of America was much impressed with the large number of colds among American school children in contrast to the num-

*Herzstein, Joseph, "Ventilating Home, School and Workshop" Hygeia, December 1924 (complete findings of New York State Commission on Ventilation, have been published by E. P. Dutton and Company, New York.)

ber of children thus afflicted in her own country. Her kindly criticism was that American teachers were using too much heat in the school room. She advocated much lower temperature than the usual 68° Fahrenheit and recent experiments show that we are not behind Austria in the idea, if we are behind it in the practice. To quote from a report by Dr. Joseph Herzstein, Secretary of the New York State Commission on Ventilation, after four years of research by this commission, "Children exposed to quite cool indoor atmosphere (10 degrees below what one would regard as usual for real comfort), enjoyed much better health than those exposed to much higher temperature with fan ventilation. There was little difference in amount of sickness among the children exposed to temperatures of 59° or 67° degrees under conditions of window ventilation."*

Since comparatively few schools can afford the expensive fan systems of ventilation and many systems having them do not keep them in good repair, the conclusion drawn from the careful experiments of the New York State commission that window ventilation is a superior method of ventilation, is a particularly happy one. Now, if this conclusion is accepted the chief concern of the teacher is how to secure maximum efficiency in ventilation.

In schools which are ventilated by the open window method there are two conflicting problems to be reconciled—namely, the ventilation and the heating of the room. There should be an accurate thermometer in every room for guidance. In severe weather the inlet for fresh air and the outlet for stale air connected with the heating system, whatever form this may take, together with window boards or cloth screens should solve both problems. However, to insure adequate fresh air supply, all windows should be opened for a few minutes before school opens in the morning, during each recess and during all relief drills. This can be attended to by pupil monitors appointed for this purpose, trained to keep the temperature correct and to make a careful record of it.

The arrangement and repair of the windows also play an important part in open window ventilation. The windows for lighting the room are now placed on one side of the room and transoms have become taboo, therefore hot climates have demanded the use of small windows placed in the rear of the room, called breeze

* *Ibid.*

windows. These windows are about eight feet from the floor, are entirely shaded and used only to assist in ventilation. Again windows should be in good repair, easily raised at the bottom and lowered from the top. Where screening is necessary, the whole window should be screened so that the lower sash can be raised and the upper sash lowered, as this insures good circulation of air. Every teacher should make a careful study of her own ventilation problems and see that the principles of good ventilation—moisture, motion, correct degree of temperature, freedom from dust, bacteria, odors, and fumes—are kept at a high standard of efficiency.

Care of the school plant. The school child spends most of his daylight hours at school, therefore the school plant should be sanitary and attractive. This not only protects the child's health but develops his pride in the possession and use of the school. Giving definite tasks to school children in the care of the school plant stimulates their pride and appreciation. In the small rural school the entire care of the school plant may fall upon the children. If careful directions are given by the teacher and the work is fairly distributed it will not be a burden upon any child but rather the means of developing ideals of cleanliness, orderliness, and appreciation for public property in the whole group.

If janitor service is available certain standards should be met. Politics or cheapness of labor should never have any weight in his selection. The personal qualifications of a janitor should include high moral standards, tactfulness and firmness with children, and a real love for cleanliness. He must also be cooperative and loyal to his school and its officials. His professional qualification includes mechanical training and skill in the use and repair of heating, cleaning and ventilating apparatus. He must understand the need of fresh air and how to take care of the ventilation of the entire building in an efficient manner. He must also understand hygienic ways of cleaning. (No dust raising devices such as feather dusters should be tolerated). The janitor should also understand how and when to clean in a satisfactory and economical way. He should clean desks often and call the teacher's attention to the children's care of their desks. He should also help her to adjust desks to children at least twice during the school year. Blackboards should be kept clean by frequent sponging, not soaking. They should be refinished

when the surface becomes too gray to give a sufficient contrast with the white chalk. Erasers should be thoroughly cleaned by vacuum cleaner or by beating two erasers together outdoors. The chalk troughs should be covered with screen wire so as to keep erasers out of the dust and should be kept as free from dust as possible. (Chalk dust is a serious menace to the healthfulness of the mucous lining of the air passages). The janitor is responsible not only for correct heating, ventilation, and cleaning of the school plant but also to a large extent for good lighting if correct appliances have been installed, since dirty windows and globes or shades out of repair may seriously interfere with obtaining correct lighting conditions.

While school hygiene is rapidly demanding more efficiently trained janitors of high personal standards, the school officials must realize that it is necessary to grant certain privileges to attract men of the right calibre. Personally, they deserve consideration and courtesy, comfortable and convenient quarters for workshop, place for washing, a toilet, and every labor saving device that the larger plants can afford. Professionally the care of the school plant is the janitor's responsibility even though he is under the principal's supervision, therefore the principal should see that his duties are not interfered with by after-school activities. Frequently after-school activities so seriously delay or interfere with the regular afternoon cleaning that it is poorly done or delayed until morning when it may be hurried and invariably causes unnecessary dust in the classroom, assembly room, or hallways. The writer recalls visiting a number of schools as an assembly speaker where the cleaning had been a dust raising procedure and so recently completed that the air was noticeably uncomfortable to breathe. Some of these were city schools, some rural schools, while others were large consolidated schools; several were under the direction of so-called "outstanding" educators. The inclusion of a good text book on school hygiene on the required reading list for teachers in many of the states is rapidly making these conditions rare.

Feeding of school children. When teachers study the food needs of their pupils they are frequently amazed to find that many of the children do not have a single adequate hot meal on school days. A few of them miss breakfast, not because of lack of food in the home, but because of poor home management—one has tardy

Mid-morning Lunch of Half Pint of Milk and Two Graham Crackers

breakfast, another has not been taught to have all school supplies in place before going to bed and a search for cap or books does not leave time for breakfast, another, because of punishment, followed by tears or resentment, did not eat or could not digest the food put before him. Frequently, these same children bring cold, indigestible lunches to school, reach home after the hot noon day meal is served, eat cold "left-overs," and finish their dietary for the day with a cold supper. There is another group of children who are given unlimited spending money for school lunch: these are prone to buy candy, pickles and ice cream cones unless a sane hot lunch menu is offered.

It should be remembered that children not only need the right kind but the right quantity of food. Dr. Benedict varies the old adage so that it reads—"Spare the food and stunt the child." He also states that more children are underfed than overfed. For example the total caloric requirement of children of both sexes during adolescence exceeds by nearly 1,000 calories the requirements of the adult man or woman of moderate activity. Dr. Holt, and other child specialists, make similar observations. Therefore, those expecting to feed children should study the caloric tables and be ready to see to it that children get the correct amount of food as well as the right kind of food properly prepared and served at regular hours.

The problem of correct feeding of the school age child is one of the first problems that should be met by the parent-teacher association, but if the teacher introduces the idea she must realize that this, like all other health problems, requires especial tact. Her particular task is to weigh and measure children in the presence of parents if possible, and to encourage an attitude of mind among her pupils that will demand healthful food. She can make provision for the mid-morning lunch of one half pint of milk and two graham crackers and supply at least one hot dish to supplement the usual cold school lunch. After lunch she should tell a story or have a quiet game to give children the needed rest period. (Many prolapsed stomachs have been started in childhood by strenuous play periods immediately after eating.)

The hot school lunch. There are so many excellent books and bulletins on the hot school lunch, that a complete discussion here is

unnecessary. However, it may be well to recall that the hot school lunch not only offers a means by which the school child may be properly fed, but offers also an excellent opportunity to put into practice many of the health ideas, health ideals, and health habits that should form an important part of training in hygiene; namely, the right kind of foods, their correct preparation, combinations, serving; the clean hand habit, the use of individual napkins, knives, forks, dishes, etc., good manners, in eating; service to others; and well chosen conversation at the table.

Boys as well as girls may assist in the preparation and serving of the school lunch. In large schools the lunch is usually a part of the domestic science department activities, in the smaller systems and in the one teacher school, it may be developed by the teacher. In any system there is no excuse for its absence.

The first questions asked by the teacher after she becomes a convert to the need of the hot school lunch are "How may I get the necessary equipment? How may I get necessary supplies?" Both of these can be answered at once—through the parent-teacher association. Some of the equipment may be given, some loaned by the parents; a box supper preceded by a school entertainment will invariably raise enough money for the necessary equipment and some of the staple supplies. Other supplies may be furnished by parents. The children may bring their own dishes and silver. A good plan is to divide the parent-teacher association into small groups each responsible for supplies for one week. A school lunch club organization among the children may work out menus and quantity recipes, and do the cooking, serving and dish washing under the teacher's direction.

A few wholesome dishes for the hot school lunch are as follows: meat stew; vegetable and cream soups; creamed vegetables (onions, carrots, potatoes, cabbage); creamed meats; mashed potatoes; and milk cocoa, (not more than once a week), etc. Any one of these dishes may be used to supplement lunch from home or with small addition make a complete lunch.*

Milk, a necessary part of the child's diet. Milk has been rightly called "the master builder." It is an all important food for

* For practical suggestions see Hasslock's "The Nutrition of School Children," free bulletin, Georgia State College for Women, Milledgeville, Ga.

growing children. No other food can take its place. A quart of pure, rich milk should be taken in some form by every child daily; the under-nourished child should have more. Much of the unsatisfactory progress in school is now being attributed by specialists to the lack of nourishment during the long school periods. The rapid improvement made by giving children a mid morning lunch of milk alone or milk and crackers proves its worth.

Different methods are being employed to pay for the mid-morning milk lunch. In some instances the children who can afford it bring five cents each daily and the profit is used to furnish straws and provide milk for children who can not afford to pay for it. In other instances, the milk is furnished free to all children by a parent-teacher association, mother's club or woman's club. One Chicago boy with two glasses of milk a day and two rest periods of fifteen minutes each, gained eleven and a half pounds in three weeks. A pint of milk in the morning and an afternoon rest immediately after a hot lunch have added as much as twenty pounds to a child's weight during a single term. The milk can be taken directly from the bottle through a straw.

Sometimes, all too frequently, when the nutrition program is started such remarks as these are heard; "But my Mary cannot drink milk" or "My Johnny will not touch milk." It is a rare individual who has a true idiosyncrasy for milk; most of the children who say they cannot drink it are simply slaves to their own pampered food habits. An ingenious teacher can usually reach this type by "playing the health game," with all its varied points of interest, the health story, the health playlet and the health chores. It should also be remembered that raw milk is not the only way of giving the child his quota of milk—cream-soups, and sauces, milk deserts, milk on cereals, milk cocoa, and milk toast add variety and food value to the menu.

Experiments with milk from Maine to California show that "milk-using" children are far superior physically as proven by medical examination and athletic contests. California uses this slogan: "Free milk in the schools is as necessary and beneficial as free textbooks."

Causes of Malnutrition. In a pamphlet prepared for the National Tuberculosis Association, *Dr. Charles Hendee Smith says:

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*Modern Health Crusade "Nutrition Course."

"The causes of malnutrition are many and the condition of most undernourished children is due to more than one of them. Sometimes there have been so many things in the child's life that might have caused ill health and poor nutrition that it is impossible to say which are the most important causes in a particular case. These causes may be divided into five main groups.

"1. Heredity and natal causes.

Prematurity or undersize at birth, difficult feeding or repeated digestive upsets in infancy.

Small and slender parents are apt to have small children but this is seldom a good excuse for poor nutrition.

"2. Past illness.

Such as severe typhoid, or surgical operation, many acute or repeated illnesses (especially the infectious diseases) or even frequent attacks of minor illness, such as common colds and tonsilitis.

"3. Present illness or defects.

Tuberculosis, diabetes, or other chronic diseases, must not be overlooked.

Defects such as bad teeth, diseased tonsils and adenoids, discharging ears, bad vision, deformities of the spine or extremities, flat feet, mental defects.

"4. Bad hygiene and diet.

Insufficient sleep, rest, air, sunlight. Uncleanliness. Irregular bowels, bad eating habits, habitually bad appetite.

(This cause is as common among the rich as among the poor, due to bad training.)

Insufficient or improper food.

"5. Social and economic factors in the home.

Poverty or great wealth, spoiling, lack of discipline, quarreling in the home, bad housing, crowding.

Many more factors might be mentioned but these are enough to show that it is not always a simple problem to determine why any individual child is underweight."

The nutrition class. Dr. Taliaferro Clark of the U. S. Public Health Service says: "Special classes for mal-nourished children should be unnecessary in a well-conducted school system, providing proper health supervision." Unfortunately the type of health supervision to which he refers does not exist in many school systems at the present time, and the large number of malnourished children found in the schools in many parts of the country seems to justify at this time the organization of special nutrition classes to care for this group. These classes should not exceed twenty children each, and should be in the care of a nutrition worker or teacher who has given careful study to the subject. Each child in the class should have a thorough medical examination and careful follow-up work should attend to the correction of all remedial defects. The classes should meet once a week, the physician and parents being present, the children should be weighed with gains or losses entered on individual record cards. These charts may be made by local workers or bought in quantity lots.

Different means are used to keep up interest both among the parents and the children. One way is to seat the children with their parents according to their gain. Formal graduating exercises with honors have been found to be stimulating in other places. An educational program consisting of illustrated talks, lantern slides, health stories and health plays should be a part of every weekly meeting of the class. The success of the education program is most important, for without its influence toward permanent ideals of hygienic living a slump will follow the close of the class. The teacher or nurse in charge must realize that a nutrition class is a community problem as well as a school problem, and that the program must truly educate the parents as well as the children in correct food habits and in all principles of hygiene that affect nutritional processes.

The nutrition program should strive to include (1) complete physical examination in presence of parents; (2) correction of defects found; (3) more food and better balanced meals; (4) substitution of milk for tea and coffee; (5) a mid-morning and mid-afternoon lunch of milk and crackers or bread and butter; (6) no sweets between meals; (7) an adequate rest period in the morning and another in the afternoon; ten hours' sleep at night with windows wide open; (8) a less strenuous school, home and play program,

until average weight is reached; (9) no excitement, (few parties, movies, etc.) before correct weight is reached, or all symptoms of malnutrition are obliterated; (10) one regular bowel movement a day, preferably after breakfast. Such a program should also include good habits in care of teeth, necessary attention to correction of eye defects, abundant water drinking, good posture and self-control.

Food games have given added interest to nutrition work, some of the most effective having been initiated by the children. The following was worked out as a playground game.*

Foods—A Game. Under the direction of the hand-work supervisor, as a part of the handwork program, the younger children cut out pictures from magazines of foods good for them and pasted them on cards. The idea of this game is to teach the player what foods are good for him. The game was played like "Authors." The older girls printed the names of a group of foods at the top of a card, such as "Puddings." The younger children cut out and pasted a picture of a pudding good for children underneath the title. Underneath this the older children printed the names of three kinds of foods which would be suitable for all children. For example, under puddings they had rice, custard and junket. Those three cards made a book and the one who got the most books won the game. There were thirty cards in the set, and when five played, the game was most interesting.

Another device for vitalizing the study of sources of food is to have the pupils make a food map of the world as a geography project with different food flags on strong black-headed pins. The object of the game is to place each flag on the map, in a locality producing the food it represents and give the name of the country, or, if found in the United States, the section of the country growing the products.

For the actual teaching of food values, a practical course in domestic science is most effective in the intermediate, upper, and high school classes, but nutrition instruction, it should be remembered, should begin with the first grade. There are several excellent suggestive outlines for nutrition classes that may be used most

*Public Health, May, 1922. Used by the courtesy of Michigan Department of Health.

effectively in regular grade class.* All the better supplementary health readers give emphasis to feeding as do most of the health stories and playlets.

Hygiene of instruction. The hygiene of instruction presents a four-fold problem. It is concerned first with environmental conditions that will encourage good physical health; second, with conditions that will encourage good mental health—the power of concentration and clear thinking; third, with conditions that encourage emotional balance—self-control; and fourth, with conditions that will encourage a normal social life. To be able to meet all these conditions successfully the makers of curricula must have a sympathetic understanding of child life in general, while the teacher must have not only this but in addition a definite knowledge of the individual needs of the specific group in her charge.

Again, the school program must be wisely organized. The old formal program must be broken into wise periods of study, recitation, rest and exercise if it is to meet the biological and sociological needs of the child. The newer idea of giving the child entire "freedom to express himself" must be skilfully guided if it is to give the child the needed definiteness of purpose, concentration, self-control and discrimination.

To grasp the complexity of the hygiene needed in instruction the student of child life may begin his study with any one of the many phases of child psychology, for example, the emotional life of the child. While all of the emotions of the child should be carefully guarded—fear is the one of all others that should be given particular attention for it is the most insidiously destructive of all the emotions.

Child psychologists urge that parents, teachers, and nurses should never minimize, criticize, ridicule or encourage fear. How widely this danger has been neglected is demonstrated by the fact that specialists in mental hygiene clinics say that this is the most common underlying factor in the many maladjustments of childhood. In considering the question of the hygiene of instruction, let the teacher ask herself frequently the following question: Has my

* "Outline for the Teaching of Nutritional Phases of Health Program in Elementary Grades" Merrill-Palmer School, Detroit, Michigan. Price 20c. First Reader, Nutrition Series No. 1, Merrill-Palmer School. Price 15c.

instruction been such that my pupils have been entirely free from fear of embarrassment—sarcastic questioning or ridicule, fear of unjust punishment, fear of unwholesome presentation of certain facts (as the microbe, reproduction, etc.) or from the mere agony of continued failure?"

The physiologist and psychologist have analyzed the serious results of fear until thoughtful parents and teachers are making every effort to eliminate this destructive emotion from the lives of the children in their care. They should begin their positive program against fear by saying as Emerson said "I count that day lost wherein I have not overcome a fear." They should not end the program until the children in their care are free from the fears engendered by superstitious nursemaids, older children or unsympathetic grown ups.

Suggestions For A School Health Survey

Name of School.....Date.....
Surveyed by (teacher, trustee, medical inspector, nurse, patron.)
.....
.....

	Yes	No
I. Location and grounds		
1. Is the location of the school healthful?		
2. Is the location safe—away from inflammable structures, railroads, street cars, highways, immoral places?		
3. It is free from unnecessary noise, dust, and smoke?		
4. Is it accessible—"not over two miles from home of children who walk or six from the homes of those who ride?" *		
a. If a school wagon or truck is used is it overloaded or crowded?		
b. If transportation is furnished, is it in hands of careful driver who is also a competent chaperone?		

* Minimum Health Requirements for Rural Schools.

Suggestions For A School Health Survey—Continued

	Yes	No
5. Are the school grounds well drained, either naturally or artificially?		
6. Is the soil uncontaminated, free from mixture of decomposing plant and animal matter?		
7. Is the soil fertile—"a pure, sandy or gravelly loam," * suitable for school gardens and playgrounds?		
8. Are the grounds sufficiently large to provide play and garden space? (three acres is minimum for one teacher rural school, consolidated school should have eight to ten acres, city schools should be placed near park, or have open air space on roof.)		
II. Construction and repair of school building		
1. Is the building fireproof?		
a. Were fire-proof materials used in construction?		
b. Are there adequate uncluttered exits or fire escapes in good repair?		
c. Do the doors open outward?		
d. Are the flues in good repair?		
2. Is the building adequate in size?		
3. Is the building well lighted—class rooms, cloak rooms, auditoriums, halls, closets, offices, basements, and outdoor play spaces when used for night play?		
a. Is window space one fourth to one fifth floor area in all class rooms?		
b. Is unilateral lighting used in all class rooms? Or light to left and rear of pupils?		
c. Are the walls of all class rooms of some light soft color—green, gray or tan preferably?		
d. Are shades light in color, translucent, adjustable and carefully and regularly adjusted?		

*Dresslar's "School Hygiene," The Macmillan Co., New York City Chapter 2, p. 23.

Suggestions For A School Health Survey—Continued

	Yes	No
e. Are windows and globes for artificial lighting kept clean?		
f. Are seats and desks so arranged that neither pupils nor teachers face the light?		
4. Is good ventilation carefully planned for?		
a. Through open windows (breeze and lighting windows) in mild weather?		
b. Through window boards, jacketed stove or furnace inlets and exits for fresh air in severe weather?		
c. By special ventilating system? (Note: open window ventilation preferable).		
d. Is the room temperature kept at 68° Fahrenheit or below? (Less heat means fewer colds).		
e. Are windows opened before school, during recess and relief drills?		
5. Is the basement well ventilated, well lighted, and thoroughly dry?		
6. Are there two cloak rooms or separate locker space for boys and girls of each class?		
7. Is there an entrance hall or porch?		
8. Is there a retiring room in the small plant that may be used for rest room, emergencies, physical examinations and library? In consolidated or city schools is there a well equipped library, teachers' rest room, office, adequate toilet and washing facilities, laboratory space? Is there a carefully planned medical inspection room or rooms of adequate dimensions and convenience in the latter?		
9. Is there available space for preparation and serving of hot school lunches?		
10. Have the old dust-catching transoms been eliminated from the school plan?		

Suggestions For A School Health Survey—Continued

	Yes	No
11. Has the obsolete teacher's platform been removed from all class-rooms?		
12. Is the building in good repair—roof, outside and inside walls, basement, windows, outside steps, inside stairs, floors?		
III. Equipment		
1. Has the school adequate sanitary toilets? At least two, one each for boys and girls built according to local or state health requirements?		
2. Is there a convenient and safe drinking water supply—water system, driven well?		
a. A cooler with generous supply of paper drinking cups, with waste receptacle to hold used cups or		
b. Sanitary drinking fountains?		
3. Are there available facilities for bathing hands?		
a. Are paper towels furnished by school?		
b. Is there a receptacle for used towels?		
4. Are all class rooms equipped with single, adjustable seats and desks?		
5. Is there necessary equipment for hot lunch?		
a. Stove.		
b. Closed cupboard for utensils.		
c. Closed cupboard for supplies with vermin and dust proof containers?		
d. Cupboard for supplementary lunches from home.		
6. Is the entrance furnished with foot scrape or wire foot mat?		
7. Has the school standard scales, tape measures, individual weight charts and class room weight records for monthly weighing and measuring of children?		
8. Has the school a properly lighted Snellen Vision Test Card, a curtain rod for vertical posture test, a convenient loud ticking watch for hearing test?		

Suggestions For A School Health Survey—Continued

	Yes	No
9. Has the playground adequate play equipment suitable for the interest of various groups—sand pile, slide, giant stride, low swings, teeter board for little folks; chinning bar, jumping pit, base-ball, volley ball, basket ball grounds and tennis court, with necessary equipment, for the upper grades?		
10. Is there an accurate thermometer for testing room temperature in each class room?		
11. Is there a well equipped medicine cabinet in the school?		
12. Are there two or more standard health references, at least two supplementary health readers for each of the primary and intermediate grades, supplementary health texts and a large supply of free and inexpensive health bulletins for upper grades on shelves of school library?		
IV. Sanitation and care		
1. Do toilets meet the sanitary requirements of state or local health departments?		
a. Water-carriage system for sewerage, toilets located in basement with widely separated entrances and complete dividing wall between girls and boys toilets, or		
b. Two fly proof, well lighted and ventilated toilets at least 50 feet in different directions from school house. Entrances carefully screened. Excreta decently and safely disposed of?		
c. Are toilets in good repair with indoor latch and toilet paper?		
d. Are they free from all defacing remarks?		
2. Is drinking water safe?		
a. Has recent analysis been made by state health department or local health officer?		

Suggestions For A School Health Survey—Continued

	Yes	No
b. Is water supply carefully protected at its source?		
c. Is there a clean cooler with adequate supply of paper drinking cups or a number of sanitary drinking fountains?		
3. Are the bathing facilities used for hands		
a. After going to toilet?		
b. Before eating?		
c. Any other time needed?		
d. Are clean individual cloth towels or paper towels used? (Note: Paper towels and paper drinking cups are cheap and should be a rule in all schools. One good school entertainment should pay for a year's supply.)		
4. Is the school house given at least three thorough cleanings during the school year—walls, floors, windows, desks, etc., each being carefully cleaned?		
5. Is the floor cleaned, disinfected, and waxed or cleaned and treated with a thin coat of floor oil?		
Formula: Linseed oil, Turpentine } ½ gallon each; Shellac 3 oz. per gallon of above.		
Note: The cheaper oil is a parafin oil that may be bought from any gasoline filling station.		
6. Is janitor service up to standard requirements?		
V. Use		
1. Is the hygiene of instruction considered?		
a. Is the school program especially arranged in relation to avoidance of fatigue and nervous and emotional strain?		
b. Is the school environment cheerful, encouraging, sympathetic?		

Suggestions For A School Health Survey—Continued

	Yes	No
c. Are the study, recitation, play and rest periods carefully balanced?		
d. Are the subjects in the curriculum linked up with life interests of the children?		
2. Is there a definite recreational program?		
a. Are the recess periods used for supervised play?		
b. Are after school and holiday activities planned for the children?		
(1) Canning, pig, and corn clubs?		
(2) Boy Scouts, Girl Scouts, Camp Fire or Girl Reserve organizations?		
c. Is adult recreation included in the program?		
3. Is the school house used as a community center for		
a. Parent-teacher association meetings?		
b. Movies, lectures, etc.?		
c. Health center?		
d. Is the school used for evening classes?		
4. Is your school adequately lighted for evening activities?		

Assignments and Topics for Class Discussion

1. Make a careful survey of the location, construction, equipment and care of a number of convenient school plants. Draw plans of them, making footnote suggestions for improvement. Use as basis for class discussion.

2. Discuss the school water supply, giving practical suggestions for sanitary drinking and washing water supply in the city school, the consolidated school, the one or two teacher rural school.

3. Make careful study of various types of sanitary toilets. Which is recommended by local or state health department?

4. Why are water supply and toilet facilities so closely related? Discuss this in terms of known rural conditions.

5. What constitutes good ventilation? Discuss the experi-

ments from which the modern principles of ventilation have been drawn. Discuss correct heating and lighting of various type schools.

6. How may the work of school janitors be standardized?

7. Make definite plan for care of rural school.

8. What are the best natural disinfectants? When should artificial disinfectants be used? By whom should the latter be supervised?

9. Discuss the school room dust problem. How may it be avoided? Give details for care of erasers, blackboards, floors, etc. Be practical.

10. What schoolroom and playground equipment can be made by older children? Make drawings or models of them and estimate cost of each.

11. Make hot school lunch menus for two weeks. Work out recipes and estimate cost of each menu for thirty children. Make menus for school lunch on blackboard giving calories per portion for each dish with cost. Total calories (600–750), Total cost (10c–20c.)

12. Give suggestions for hot weather school lunch menus.

13. Make a list of ways of adding milk to the child's diet.

14. Weigh and measure students in class, organize nutrition classes for overweights and underweights. Grade students on individual results obtained, giving credit for normal weight. Have students assist with or observe nutrition classes for malnourished children.

15. How may a teacher guard the emotional life of her pupils? How may she teach concentration, clear thinking, self-control?

16. Build an hygienic program for the primary grades, the intermediate grades, the upper grades.

17. Let every student make a complete outline of how she will improve or protect the hygiene of her school next year—star points she expects to give greatest emphasis.

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CHAPTER V

HEALTH SUPERVISION OF THE SCHOOL CHILD

"The tragedy of education is that any child is allowed to fail."—Dr. M. M. Parks.

The school's responsibility for the health of its pupils. When the state claims the child as a future citizen through its compulsory education laws, the school becomes a public trust, and every school child in the state has a claim against it—namely, an opportunity to become a healthy, happy, and efficient citizen. That good health is the surest basis for both happiness and efficiency is an accepted fact in the twentieth century. That the health of the child determines largely the health of the man; that a sick child cannot be taught; and that a child who is suffering from an uncorrected physical defect is seriously handicapped in all school work as well as retarded in physical development are also accepted facts today.

Therefore the first obligation of the state to its future citizens is to see to it that every child is given "an unfettered start and a fair chance in the race of life." This means, first, that every precaution must be taken against the spread of communicable diseases; second, that remedial defects must be prevented or corrected; third, that favorable environmental conditions surround the child while he is at school. The only practical means by which the state may meet this obligation toward the health of the school child in its care is in adequate school health supervision.

Historical. Health supervision in the form of medical inspection is over eighty years old, but it is only in recent years that it has made rapid progress. In America, the movement was initiated by Boston in 1894, Chicago followed in 1895, New York in 1897, Philadelphia in 1898, and Cleveland in 1900.* Gradually other

* Cornell, Walter S. "The Health and Medical Inspection of School Children." F. A. Davis, Philadelphia, Pa.

school systems have come to realize that the protection of the child's health is a fundamental school obligation, until health supervision in some form is now an accepted part of every progressive school program.

The scope of health supervision. Health inspection of school children was started "to curb the waves of contagious disease that repeatedly swept through the ranks of the children leaving behind it a record of suffering and death"* but it has expanded until the present complete health supervision program includes many phases of preventive and corrective health work as special dental clinics; ear, eye, nose and throat clinics; and in some places mental clinics and speech clinics are being added. Corrective posture work is usually in the hands of the physical director, though posture should be noted in all thorough examinations by medical inspectors, because the diagnosis of certain cases is difficult and many of these cases should be treated by an orthopedic surgeon.

While it is the business of the health inspection corps to make a careful medical and dental examination of each school child and to give advice to all parents concerning any disease, defect or impairment found, and any needed preventive measure, the usual plan is to advise all parents to consult their own family physician, surgeon or dentist for treatment or correction of all these conditions. The only exception to this rule is where the parent is known to be unable to afford medical attention. In such cases the child is treated free of charge by specialists in the clinics.

Most of the city systems require a certificate of satisfactory vaccination against smallpox as a pre-requisite to admission to school. Since vaccination is the only sure prevention against smallpox, this law should be most carefully enforced everywhere. Inoculation against typhoid fever should be required wherever the sewerage disposal, water or milk supply is not carefully supervised or wherever an epidemic threatens a community. The use of toxin-antitoxin, protective measure against diphtheria, has also passed the experimental stage. Dr. Abraham Zingher of New York City made the following statement concerning toxin-antitoxin in the spring of 1924:

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* Ibid.

"The great importance of immunizing young children against diphtheria between the ages of one to five years lies in the fact that fully 80 to 85 per cent of all cases of diphtheria and all deaths from this disease occur in children under five years of age. It is, therefore, the best part of wisdom to protect these children as soon as possible, preferably before they reach the first year of life. These young children, who are so very susceptible to diphtheria give a positive Schick reaction so constantly that we have recommended the omission of the preliminary Schick test and advise the administration of three protective injections of toxin-antitoxin to all children of this age group. The Schick test to determine the development of immunity should be applied within one year after the injections, or if possible before the children enter school. In New York we have given the Schick test and toxin-antitoxin to over a half million children of school age and pre-school age. We believe that the marked lowering in mortality, which has occurred in the last three years, is mostly due to this extensive work in protecting the child population of the city."

But a complete health supervision program should have a broader aim than mere detection, treatment or correction of defects and diseases and an immunization against the latter. It should strive to prevent these conditions. The personnel of the health supervision corps should cooperate tactfully with boards of education in the problems of healthful location, construction, equipment, safety, care and use of the school plant; careful examination of all teachers and follow-up work for keeping them up to par should be planned and executed; and a painstaking and vitally interesting program of education for the children, parents, teachers and community should be organized.

The channels for the educational program are numerous. First, there is the direct instruction of the child and the parent. Second, there are popular (non-technical) lectures before school groups, parent-teacher associations, women's clubs, chambers of commerce, etc. In fact, all local organizations both for women, men and children are invariably glad to help with health problems. These lectures are usually more effective if they are illustrated and if a large supply of free leaflets and bulletins are distributed to the audience when leaving. Third, the movies can be made valuable advertisers for health.* The

* See list of health films prepared by National Health Council, 370 Seventh Ave., New York City. Price: 35 cents.

fourth accessible channel is the local press. This may be used for notices, articles, contests, also for health compositions and reports by school children. The school nurse and grade teacher are invaluable in all educational programs for their opportunities for reaching the unorganized groups are many.

The need for school health supervision. A realization of the great need for careful health supervision of the school child can be approximated by study of the records of medical examinations in schools in any part of the country. Dr. Thomas Wood is authority for the following estimates:*

> "Seven-tenths per cent of the school children (nearly 200,000) suffer from organic heart trouble. Many of these cases could be prevented, for example, by removal of infected teeth or diseased tonsils and adenoids, or by protecting the child from over-exertion or exposure for a sufficiently long period of convalescence after illness.
>
> The number of children with decayed teeth varies in different localities from 50 to 98%. There is reason to believe that this may be largely remedied by proper diet beginning with that of the mother, and by hygiene of the mouth and teeth.
>
> The application of our present knowledge of healthful living would forestall the appearance of many of these defects. Many of these might be prevented if parents and teachers had sufficient education in matters of hygiene to protect children from unnecessary risks to health. The remedying of these and other defects, once they have been developed, lies largely with physicians, dentists and other professionally trained experts.
>
> From 30 to 40% have adenoids and diseased tonsils.
>
> One-fourth of the school population, or about 6,000,000 have defects in vision.
>
> From 25 to 40% have defects of posture and foot arches.
>
> From 15 to 25% are malnourished. This is largely a preventable defect, and one which health education may help effectively to reduce."

The examination of school children rarely reveals more than 1% with active tuberculous disease, though some authorities believe that if all types of tuberculosis are taken into account including

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* Health Education—a Program for Public Schools and Teacher Training Institutions—Report of the Joint Committee on Health Problems in Education. 1924—Obtainable from the National Education Association, Washington, D. C. Price: $1.00.

glands, bones, eyes, etc., the incidence should be placed as high as 5%.

Tuberculin skin tests on groups of school children indicate that from 35 to 90% of the children (depending on locality) have tuberculous infection without tuberculous disease. One factor in determining whether this infection shall later become disease is the condition of the child's general health. This shows the importance of maintaining the health of the children as a part of any campaign for the prevention of tuberculosis.

When should school health supervision begin? Common sense would suggest that a survey of the school plant and examination of the teachers should be made before the school session begins. The same good sense should also advise that the ideal time to make all examinations of school children is also before the opening of school, so that diseases can be treated and all remedial defects corrected before the school term begins. This plan will not only prevent great loss of time from physical handicaps but will also allow time for the placing of the subnormal, abnormal or superior child in the special class or school planned to meet his specific physical and mental needs. A card form showing physical fitness and mental aptness should be filled out at the examination and used later as an entrance requirement. The tuberculous child will then have preference in the outdoor school, the child of low grade mental rating will be grouped in a special school where he may be trained to become efficient according to his native ability, while the child with exceptional mental endowments will be given his rightful opportunity to develop without being held back to the rate of progress of the less gifted children.

That the above type of health supervision will add coherence to our present lumbering procedure has been proved by the results already achieved wherever "pre-school" or enrollment clinics for children to be entered in school the next September have been held during the previous spring. Trenton, New Jersey is an outstanding example of this sane preparation of the child so that he "may be able to take full advantage of the school program." Trenton's procedure includes (1) form letters sent out from the office of the Board of Education* to local physicians, dentists and principals

* Courtesy of Dr. A. M. Carr, Medical Director, Trenton, N. J.

of elementary schools announcing the enrollment clinics and asking for their coöperation, (2) special announcement card forms directed to the parents and delivered to them by the older children and nurses, (3) registration blanks to be filled out at this time by the principal, and (4) physical examination blanks to be filled out by the nurse on the home visit. Kindergarten and first grade teachers are urged to make home visits. Principals and primary teachers are usually present for examinations and get acquainted with children and parents. Vaccination is urged during the spring months and the mother told to ask her doctor about the medicine to prevent diphtheria. Parents are advised concerning diet and other hygienic measures. Summer months are spent in follow-up work urging correction of remedial defects.

The value of health supervision. While it would be futile to attempt to estimate the full value of health supervision of school children, the following definite results have been accomplished through it. (1) It has aided the health authorities in the control of communicable diseases by detection and exclusion of sick and exposed children from school and has thereby saved untold loss of time from epidemics. (2) It has safeguarded the health of the individual child, (a) by detection of undiagnosed illnesses as mild cases of the so-called "children's diseases," incipient tuberculosis, internal worms malaria, heart and kidney trouble, and (b) by the detection and correction of remedial defects, as bad teeth, poor vision, defective hearing, adenoids, diseased tonsils, incorrect posture and malnutrition. (3) It has stimulated the interest of the community in public health problems, thereby improving conditions in the child's environment. (The improvement of the school plant in location, construction, repair and care of the buildings, in water supply, in sewage disposal and playgrounds has been noteworthy wherever health supervision has been installed). (4) It encourages the teacher in the teaching of health. (5) It enlists the children's interest in personal health habits, in school hygiene, in home hygiene, and in civic betterment.

The personnel of a health supervision program. The health supervision corps usually consists of a competent full time school physician, one or more full time nurses and the class-room teachers. School dentists and other specialists may give either full or part time.

The medical inspector has both legal and medical power; therefore he should be a tactful, cooperative leader as well as a physician of highest standards. If possible, he should have special training in public health, child health and child welfare. He should possess a pleasing and convincing manner and should be able to make friends readily with children.

The salary of the full time inspector should always be sufficiently large to justify the entire time of an efficient officer, for while a number of physicians might be glad to give their time free of charge, medical ethics make it a difficult generosity, unless the local medical society handles the problem.

The school nurse should also be a public health specialist and have a personality that will win the cooperation of her co-workers, of the parents and of the children in her care. The Cleveland Survey advises a nurse to every 2000 children in school.*

Since there are many excellent volumes on medical inspection † written by experts in that field, the remainder of this discussion will deal with the teacher's responsibility for the health of her pupils, and the measures she may employ to meet her responsibility, either with or without the assistance of a medical supervisor or school nurse.

The class-room teacher's responsibility for the health of her pupils. The teacher's part in school health supervision is particularly important. First, her co-operation is invaluable to the medical inspection program both in assistance with the examination and in follow-up work. Second, in the absence of medical inspection and school nurse, the detection and follow-up work for correction of remedial defects are largely her responsibility.

The personal qualifications of the class-room teacher who wishes to accept her responsibility for the health of her pupils are similar to those of the medical inspector and school nurse. She must have knowledge of the subject including ways and means of approach. She should possess tact, patience, persistence, and love for humanity. There are difficult and disagreeable problems to be met and she must have the stamina to cope with them. Sometimes there are long walks or rides to unpleasant homes of children whose remedial de-

*Ayres, L. P. & May, "Health Work in the Public Schools" The Survey of the Cleveland Foundation, Cleveland.

†See reference list at end of chapter.

fects have been neglected, again there are infected heads or skin infections that need her skilful and prompt treatment. The wide scope for service in caring for the health of her pupils is outlined in Chapter 1.

The class-room teacher and the problem of infectious disease. In some states the importance of the teacher's position in public health has already been realized. Pennsylvania has a law that practically makes the teacher a member of the local board of health. She is responsible for the exclusion of children who show symptoms of illness warranting their exclusion from school and for the exclusion of those who are known to have been exposed to any infectious disease. It is also her duty to require a properly signed certificate for the readmission of both of these groups. The school section of the law in question is as follows:

Section VII—Schools

1. Every teacher, principal, superintendent, or other person or persons in charge of any public, private, parochial, Sunday, or other school, shall immediately exclude any child or person showing any unusual skin eruption, swelling about the neck suggesting mumps, soreness of the throat, or having symptoms of whooping cough or diseases of the eyes, and shall report the fact of such exclusion and the reasons therefor to the health officer of the township, borough, or city in which the school is situated, together with the name and address of the child or person excluded.

2. No child or other person excluded from school on account of having or of being suspected to have a quarantinable disease or any persons residing on premises where there is or is suspected to be a quarantinable disease, shall be readmitted thereto unless he or she, or someone else in his or her behalf shall present to the person in charge of said school a certificate, setting forth that the conditions prescribed by regulation for the readmission to school, have been complied with; which certificate shall be signed by a person to be designated for that purpose by the health authorities exclusively of cities, boroughs, or first class townships, or by the Secretary of Health in second class townships, or boroughs or first class townships not having Boards of Health.

3. No child or persons suffering from acute contagious conjunctivitis (pink eye), impetigo contagiosa, pediculosis capitis, pediculosis corporis, scabies, tinea circinata, tonsilitis, trachoma, or favus, shall be permitted to attend any public, private, parochial, Sunday or other school; the teachers of public schools and the principals, superintendents, teachers, or other persons in charge of private, parochial, Sunday or other similar schools are hereby required to exclude any such persons from said schools, such exclusions to continue until the case has recovered or become non-communicable.

4. No child or other person excluded from any school by the provisions of the above paragraph shall be readmitted thereto until medically attested to in writing as being incapable of transmitting the disease or condition because of medical treatment or as being recovered. Such attestation may be made by the attending physician, school physician, the local Board of Health, or medical representative of the Secretary of Health.

The above law accepts the fact that if legislation can make education compulsory it must go further and protect the children from infectious diseases while they are in school. Such a law is not only a protection to the children but also to the teacher. Frequently when the latter attempts to exclude children from school without legal authority to do so she is subjected to the indignation of ignorant parents, who are prone to resent Mary's symptoms of measles excluding her from school, or John's delayed return to school after diphtheria, or Sam's quarantine because of exposure to scarlet fever. Children are highly susceptible to most infectious diseases. The acutely infectious diseases to which children are particularly susceptible—namely, whooping cough, scarlet fever, measles, chicken pox, diphtheria and mumps head this list. Gross ignorance in the past started the common saying; "Well, all children have to have such diseases as measles, scarlet fever, whooping cough, etc. let them have 'em and be done with it." Because of the prevalence of this idea many children have been deliberately exposed by parents to these infections. Happily, this criminal ignorance is being rapidly replaced by the knowledge that all of these diseases are dangerous both during the actual attack of the disease and in the after effects. Besides serious illness and bad results measles, scarlet fever, whooping cough and diphtheria take a large toll of life. The younger the child the greater the chances of fatality or serious after effects. Therefore children should be carefully protected from all the so-called children's diseases as well as all other infectious diseases. To do this children should be kept away from all known infection, and every precaution should be used to protect them from the various routes of infections.

If one of the children in the home develops symptoms of illness, he should be placed in a room by himself, away from the other children, and every precaution used to prevent infection of the others. If a child develops symptoms of illness at school or comes to school with suspicious symptoms the teacher should send him home. To do this efficiently the teacher must have adequate training in detection of the symptoms of the common infectious diseases and the legal authority to exclude children with suspicious symptoms. Wherever there is authority to exclude a child with suspicious symptoms from school a card form should be sent to the parents explaining the

reason for the child's dismissal from school and a report should be made immediately to the school nurse or doctor, if there is one. If there is no organized program for prevention of the spread of disease the teacher may present the idea to the community through the parent-teacher association and local health officer.

Careful nursing of all infectious disease should follow closely the directions of the doctor in charge of the case. Special care should also be given children during the convalescing period and the weeks following for they are apt to be weak and nervous. School work should be discontinued until the patient has regained his normal strength and even then special care should be given to the eyes. General hygiene should also be watched, for insidious diseases such as tuberculosis and kidney trouble often develop after these acute infections.

At the termination of all infectious illness the room, bedding, clothing, toys, and books used by the patient should be carefully cleaned and fumigated or disinfected according to a doctor's directions.

The period of quarantine (exclusion from school) for measles is four to five weeks; for German measles three weeks; for scarlet fever or scarlatina six to eight weeks, or until desquamation (shedding of the skin) is completed; for diphtheria six weeks or until throat culture shows it is free from the germ; whooping cough two months, or until cough and vomiting cease; for mumps four weeks; for chicken pox until all scabs have disappeared (be sure to notice scalp); for smallpox until all scabs have disappeared. For state quarantine laws, write your own state health department.

A study of the early signs and symptoms of this group of diseases will show that most of them have similar symptoms in the beginning—cold, red or running eyes, sore throat, etc. For complete discussion of early signs and symptoms, method of infection, remarks, and period of exclusion recommended see Hoag and Terman, "Health Work in the Schools" or Andress "Health Education in Rural Schools." Teachers and parents should make a close study of the tables in these references and also the tables included on infectious skin diseases and other diseases prevalent among school children.*

* See also: "Health Through Prevention and Control of Diseases," by Wood and Rowell—World Book Co.

Senior Normal Students Weighing and Measuring Grade Children

Study outlines of common communicable diseases found at the end of this chapter.

The class-room teacher and the problem of remedial defects. Dr. Hoag estimates that ninety per cent of the ordinary defects of school children can be detected by teachers. Therefore teachers should have definite training in detection of common defects. The following outlines may be used for introductory study of the most common remedial defects, for more detailed study use references given at end of chapter.

The percentage of children with eye, ear, and nose and throat defects is high, and about the same all over the country. In remote sections where a specialist and free clinics are not available, and where funds are scarce, the state health department or a local group of interested people should make plans whereby the group of children needing the attention of ear, eye, nose and throat specialist or dentist can be taken to a doctor, or the doctor brought to the children. For details of ways and means for developing a clinic for these children, write your state health department, or better still, appeal to your county medical society or local boards of health. Study outlines on common defects of the school child and on some of the most common communicable diseases found at end of this chapter.

A teacher's health survey. To systematize the teacher's part in the child health program, Dr. Hoag's Abbreviated Card Form: A Teacher's Health Survey of the School Child* may be used. These may be mimeographed and filed in loose-leaf note book binder, if card index is not available. The forms should have space at bottom for results of Snellen's vision test, of the whisper and watch test for hearing, of inspection for symptoms of adenoids and bad tonsils, of examination of teeth and gums, of tests for flat-foot and other posture defects, for height and weight record and any general remarks.

The information gained from this type of survey is not only of value in checking defects but also in the study and checking of the health habits of the child, in the organization of a course of study in health, and in the making of programs for local parent-

*Hoag, S. B. "Organized Health Work in the Schools," Bulletin U. S. Bureau of Education, 1913.

teacher associations. Dr. Andress * suggests that a teacher's health survey of the school child is also of value with medical inspection, because these reports help to call the doctor's attention to the conditions found by her.

The equipment needed by the teacher for an individual health survey. The equipment needed by the teacher for the survey of the individual child in her care is inexpensive and may be used with little difficulty. The following list includes all materials needed.

One record form for each child.†
One pair of scales.
Two tape measures.
One height and weight table for boys.
One height and weight table for girls.
One class-room weight record.
} For weighing and measuring.

One Snellen's vision chart, for vision test.
One loud ticking or stop watch for hearing test.
One curtain pole for posture test.
One tongue depressor for each child (broken and burned immediately after use.)

Procedure for making a teacher's survey. The teacher's survey of the child in her care should be given as soon after school opens as convenient. The second or third week is advisable because by this time the teacher has had time to establish friendly relations with her pupils and their parents. The latter should be invited to be present when the survey is made. The questionnaire section of the survey is made in the semi-privacy of the teacher's desk or in a room that may be fitted up for this particular purpose.‡

Whether opinions agree as to the real value of "what the scales say" or not, it is the simplest basis upon which the teacher and the parent can begin the all important checking of a child's nutritional standard. To get correct weight for height compare the child's height and weight with the "Height and Weight Table for Boys" or the "Height and Weight Table for Girls" compiled by Dr.

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* Andress, J. Mace. "Health Education in Rural Schools," Houghton Mifflin Company, Boston. p. 63.

† See Dr. Hoag's Abbreviated Card Form for Teachers Health Survey at end of this chapter.

‡ Andress, J. Mace. *Loc. cit.* p. 63.

Thomas D. Wood, and Dr. Bird T. Baldwin and accepted as standard by the Government. These may be had on request from the U. S. Bureau of Education, Dept. of Interior, Washington, D. C. or from the American Child Health Association, 370 Seventh Ave., New York City. The large class room weight records may be had for five cents each from the same sources. These are particularly valuable, because when placed on the schoolroom wall, the children may watch their own progress. Helpful rivalry also results from the use of the class-room record. All school children should be weighed once a month during the school year and their height should be taken every six months. While every school should own its own scales, the ingenious teacher will not be daunted by their absence. She may borrow some or she may weigh the children at a convenient grocery store. The inexpensive meat scales may be used for weighing the smaller children. Details for giving the Snellen's vision test and the watch and whisper test for hearing are included in the tables on the eye and ear. The posture tests are given in the chapter on posture. Muscle testers appeal to children and stimulate wholesome rivalry with each other and with themselves.

The above survey, when completed, should be kept on file and should be rechecked the first school day of every month during the school term. These survey forms should be kept from year to year with class records, as should the monthly record of each child's progress and the record of each class in hygiene.

Formulating and launching a health program. When formulating and launching a health program from survey results, the thoughtful teacher will quickly see that school needs are invariably community needs. She will then organize her program and course of study so that she may meet some of the gravest community needs. To do this, she must remember that applied hygiene is a delicate matter, that she may lead but she cannot drive a community any more than she can drive the parents of her pupils. She must also remember that if she expects to make a success of her school program, she must plan systematically to get the co-operation of her patrons and the community at large.

Methods of instruction in disease prevention for the layman, the adult and the school child. The visual method of

teaching disease prevention both to the adult and the child is probably the easiest approach to the subject. Pictures, posters, lantern slides, movies, objects, exhibits of models, street floats, pageants, and plays offer an endless variety of approaches. School contests, debates, surveys, awards, lectures, publicity in local newspapers are stimulating. Special campaigns as clean-up week, fly week, health week are also effective if there is sufficient co-operation between civic workers.

The direct instruction of children in the germ theory of diseases is important but must be handled adroitly. If too much emphasis is placed on disease children are apt to become morbid. On this account the teacher should always avoid arousing fears and anxieties among children with regard to disease. The curable and preventable aspects should be the ones set forth.

Instruction in the primary grades in prevention of disease should be in story form except in case of epidemics, which offer an excellent opportunity for direct study of the disease. Emphasis should be placed on such health habits as clean hands, the use of a clean handkerchief to cover the nose and mouth whenever the child coughs or sneezes, the use of individual drinking cups, towels, pencils, pens and books, the avoidance of swapping gum and food. A class-room wall poster called "Helping Others Honor Roll" with place for name, date of absence, and cause of absence will help to develop civic consciousness with young children and will also be a consolation to them when they have to be absent from school either because of their own infectious illness or from the infectious illness of some member of their family.

With the intermediate grades, direct instruction in disease will come in from time to time as a regular part of hygiene work or in connection with an epidemic, while in the upper grades, civic consciousness should be sufficiently strong to interest the children in the more technical aspects of disease prevention as a vital part of their public health work.

Baldwin-Wood Standard Weight Tables for Height and Age

Boys

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.
39	35	35												
40	36	36												
41	38	38	38											
42	39	39	39	39										
43	41	41	41	41										
44	44	44	44	44										
45	46	46	46	46	46									
46	47	48	48	48	48									
47	49	50	50	50	50	50								
48	.....	52	53	53	53	53								
49	.....	55	55	55	55	55	55							
50	.....	57	58	58	58	58	58	58						
51	.....	.....	61	61	61	61	61	61						
52	.....	.....	63	64	64	64	64	64	64					
53	.....	.....	66	67	67	67	67	68	68					
54	.....	.....	.....	70	70	70	70	71	71	72				
55	.....	.....	.....	72	72	73	73	74	74	74				
56	.....	.....	.....	75	76	77	77	77	78	78	80			
57	.....	.....	.....	.....	79	80	81	81	82	83	83			
58	.....	.....	.....	.....	83	84	84	85	85	86	87			
59	.....	.....	.....	.....	.....	87	88	89	89	90	90	90		
60	.....	.....	.....	.....	.....	91	92	92	93	94	95	96		
61	.....	.....	.....	.....	.....	.....	95	96	97	99	100	103	106	
62	.....	.....	.....	.....	.....	.....	100	101	102	103	104	107	111	116
63	.....	.....	.....	.....	.....	.....	105	106	107	108	110	113	118	123
64	.....	.....	.....	.....	.....	.....	.....	109	111	113	115	117	121	126
65	.....	.....	.....	.....	.....	.....	.....	114	117	118	120	122	127	131
66	.....	.....	.....	.....	.....	.....	.....	.....	119	122	125	128	132	136
67	.....	.....	.....	.....	.....	.....	.....	.....	124	128	130	134	136	139
68	.....	.....	.....	.....	.....	.....	.....	.....	.....	134	134	137	141	143
69	.....	.....	.....	.....	.....	.....	.....	.....	.....	137	139	143	146	149
70	.....	.....	.....	.....	.....	.....	.....	.....	.....	143	144	145	148	151
71	.....	.....	.....	.....	.....	.....	.....	.....	.....	148	150	151	152	154
72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	153	155	156	158
73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	157	160	162	164
74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	160	164	168	170

Girls

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.
39	34	34												
40	36	36	36											
41	37	37	37											
42	39	39	39											
43	41	41	41	41										
44	42	42	42	42										
45	45	45	45	45	45									
46	47	47	47	48	48									
47	49	50	50	50	50	50								
48	.....	52	52	52	52	53	53							
49	.....	54	54	55	55	56	56							
50	.....	56	56	57	58	59	61	62						
51	.....	.....	59	60	61	61	63	65						
52	.....	.....	63	64	64	64	65	67						
53	.....	.....	66	67	67	68	68	69	71					
54	.....	.....	.....	69	70	70	71	71	73					
55	.....	.....	.....	72	74	74	74	75	77	78				
56	.....	.....	.....	.....	76	78	78	79	81	83				
57	.....	.....	.....	.....	80	82	82	82	84	88	92			
58	.....	.....	.....	.....	.....	84	86	86	88	93	96	101		
59	.....	.....	.....	.....	.....	87	90	90	92	96	100	103	104	
60	.....	.....	.....	.....	.....	91	95	95	97	101	105	108	109	111
61	.....	.....	.....	.....	.....	.....	99	100	101	105	108	112	113	116
62	.....	.....	.....	.....	.....	.....	104	105	106	109	113	115	117	118
63	.....	.....	.....	.....	.....	.....	.....	110	110	112	116	117	119	120
64	.....	.....	.....	.....	.....	.....	.....	114	115	117	119	120	122	123
65	.....	.....	.....	.....	.....	.....	.....	118	120	121	122	123	125	126
66	.....	.....	.....	.....	.....	.....	.....	.....	124	124	125	128	129	130
67	.....	.....	.....	.....	.....	.....	.....	.....	128	130	131	133	133	135
68	.....	.....	.....	.....	.....	.....	.....	.....	131	133	135	136	138	138
69	.....	.....	.....	.....	.....	.....	.....	.....	.....	135	137	138	140	142
70	.....	.....	.....	.....	.....	.....	.....	.....	.....	136	138	140	142	144
71	.....	.....	.....	.....	.....	.....	.....	.....	.....	138	140	142	144	145

Infectious Diseases

Cause

Infectious diseases, sometime called contagious, communicable, or "catching" diseases, are due to the growth in the body of microorganisms, minute animal or plant forms, which may be transmitted in various ways from the infected person to well individuals.

Each infectious disease has a certain specific microorganism (germ). This difference accounts for differences in symptoms, results, mode of infection and treatment of the various infectious diseases.

Source

Public health now accepts the fact that the infected person is the direct source of all infectious diseases.

As germs develop in the body they may leave it either in body discharges from nose, mouth, eyes, bladder, bowel, open wound, or they may be taken from infected individual by some insect carrier, by which they may be transferred to the body of the well individual.

Routes

Disease germs do not hop, run, jump or fly from one person to another; they are carried by:

Public Routes

Public water supply.
Public food supply.
Public milk supply.
Flies.

Private Routes

Family water supply.
Family food supply.
Family milk supply.
Flies bred on premises.

Contact Routes

Mouth discharges.

a. Mouth spray in coughing, sneezing, singing, close conversation.

b. Sputum (spit) deposited on sidewalks, floors, etc.

c. Smear on hand.

d. Common drinking cup.

e. Common roller towel.

f. Common pencils, pens, books, etc.

g. Swapping gum, whistles, food, etc.

h. Unsterilized dishes, glasses, silver.

Control

Control of disease needs the co-operation of:

1. Public Health Department

Personnel: sanitary engineer, epidemiologist, laboratory man, vital statisician.

Business: (1) Search for and supervision of public routes of infection; (2) Search for and supervision of infected persons, (known cases, mild or missed cases, carriers.)

2. School Health Supervision Program

Personnel: Medical inspector, various specialists, school nurse, teacher.

Business: (1) Exclusion of children from school who have symptoms warranting exclusion—reporting of same to parent and local health officer; (2) treatment of certain cases in school clinics; (3) improvement of school hygiene and (4) development of personal health habits.

Excreta

a. Unclean hands—half washed or unwashed.

b. Common drinking cup.

c. Common towels and other toilet articles.

d. Public toilets and bath tubs.

e. Unwashed or uncooked food.

Carriers

Flies.
Mosquitoes.
Lice.
Ticks.
Bedbugs.
Roaches.
Fleas.
Rats and mice.
Cats.

Some human beings not themselves ill with the disease may also carry the germs of infection.

3. Home Control

Personnel: The parents.

Business: (1) To learn how to protect members of family from any infection in the home; (2) to feel social responsibility in protection of others from any family infection. (3) exclusion of infected material —food, etc. from the home; (4) exclusion of flies; (5) careful cooking of food, boiling of water or heating milk if either is known or suspected to carry disease.

4. Individual Control

By developing good general health.

By developing good health habits as clean hand habit.

By avoiding infectious diseases.

By securing specific immunity to specific diseases.

5. Educational Program

Direct instruction in germ theory, personal hygiene, sanitation and civic consciousness.

Common Infectious Diseases

Disease	Prevalence	Prevention	Cause	Mode of Infection	Care
Typhoid Fever. "The amount of typhoid fever in a community is recognized as one of the best indices of its healthfulness"—U. S. Public Health Report.	In 1915, Dr. L. L. Lumsden of the U. S. Public Health Service estimated 400,000 cases annually in the United States and 30,000 deaths. Recent data shows that 150,000 to 200,000 persons in the United States and Canada have the disease annually and 15,000 die of it. Average illness is eight weeks.	Close wells or springs suspected of being infected until examined. Boil suspicious water. Pasteurize milk. Do not permit nurse of typhoid patient to prepare food for anyone else. Care should be taken that all precautions should be used in care of the patient and sick-room to prevent nurse or others from becoming infected. Inoculation against typhoid fever, a simple process of immunization without danger to healthy persons. A fluid containing dead typhoid germs is injected under the	The cause of typhoid fever is a microscopic plant growth in the intestinal tract, which is called the bacillus typhosus.	The source of infection is the intestinal and bladder discharges from persons who are sick with typhoid fever or who are so-called healthy "carriers." The infection is spread (1) by the hands of the nurse or of other person caring for typhoid patient; (2) by polluted drinking water supply or from vegetables or other food washed in polluted water, (also enemas of polluted water); (3) by milk and other food handled by persons who have recently had fever or whose hands are soiled by typhoid bacilli; (4) by "carriers" healthy persons	1. All discharges of patient should be disinfected promptly and thoroughly according to direction of doctor in charge. (To make an effective disinfectant for discharges put a cupful of fresh, unslaked lime in vessel and pour over it a quart of boiling water, mix well.) 2. Nurse or person caring for typhoid fever patient should be extremely careful to wear rubber gloves or to wash and disinfect hands thoroughly after caring for patient. 3. Patient's bed and clothing should be carefully protected from discharge. Should

skin in the upper part of the arm. A slight redness appears at point of injection but soon disappears. A slight headache, or tired feeling usually follows, however, this rarely lasts longer than a day. A few cases last several days but there is no danger. Excellent results in controlling the disease by this method has been thoroughly demonstrated by the rarity of the disease in the army since the war.

who carry the infection in their body, for example, the cook "Typhoid Mary," who was responsible for several epidemics; (5) by flies which should be carefully excluded from all privy vaults.

Remember: Typhoid fever may be taken directly from patient just as diphtheria or scarlet fever. The germs come from human excreta of patients or germ carriers and are carried by fingers, flies, and water, directly to the mouths of other persons or through the same channels are carried to foods as milk, raw vegetables, oysters, etc.

bedding or clothing become soiled with discharge, remove promptly and put in disinfecting solution.

4. All water used for bathing patient should be disinfected by adding one teaspoonful of bleaching powder to each gallon of water.

5. The patient should have his own plates, cups, spoons, knives, forks and they should be sterilized immediately after they are used.

6. Some member of the local Board of Health should carefully disinfect room and bedding, and all personal belongings of patient after patient is up.

Common Infectious Diseases

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Malaria. Malaria microbe discovered in blood of malaria patient by Laveron, a French investigator—1880. Conveyance of it from one person to another by mosquito not known until 1899. The outstanding figures in fight against malaria have been Major Ross in 1902—Suez Canal, General Gorgas in Cuba and Panama Canal Zone. Government Health Service workers and others have done splendid work in research, in education and in the field.	Prevalence: Malaria is common in all hot, wet countries. Prevention: 1. Destruction of the mosquitoes transmitting malaria by destroying their breeding places and their hiding places, through ditching, draining, or oiling stagnant pools or using gold fish or top minnows; also emptying small containers of water. 2. Protection of man from the bites of mosquitoes through screening windows and doors. 3. The prevention of the development of the plasmodia in man and the destruction of the plasmodia in infected individuals. Both these	The symptoms of malaria are a chill followed by fever and headache. Attack may last only a few hours, but is apt to return every other day or every third day. In severe cases, patient may have continuous fever lasting for weeks.	The cause of malaria is the presence of small organisms in the blood of malarial patient. These germs are small living animal parasites which get into red blood cells of patient's blood. They multiply rapidly and may be seen in red blood cells of the patient if blood is examined with a microscope.	The malarial parasite gets into the blood when a person is bitten by the female Anopheles mosquito which has previously bitten another person who had malaria. There are two other varieties of mosquitoes, the culex pipiens, and the dread stegomyia (yellow fever mosquito) but only the Anopheles carries malaria. This mosquito is slight, graceful, with wings generally spotted or dusky. She rests in a straight line, frequently standing on her head. She is shy and bites rarely in day time. Her bite is less painful and she does not sing so loudly as the culex.	Malaria patient should be carefully screened away from mosquitoes, so that mosquitoes cannot get the infection and carry it to others. Quinine is the medicine used with malarial patient. It has been found to be absolutely destructive to malaria parasites. 3 to 5 grains a day for adults and about one half as much for children, smaller doses for very young children. Broken doses of quinine are also successful for immunizing the well person from the bite of the infected Anopheles mosquito.

aims are accomplished by the administration of quinine viz., quinine prophylaxis.

4. Education of the public regarding malarial prophylaxis.

Common Infectious Diseases

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Hookworm. The hookworm is a small round whitish worm not quite one-half inch long and about the size of a hair, it may be seen by the unaided eye.	Prevalence: This disease is found in parts of every warm country in the whole world. Chandler estimates that there are one-half billion people in the world infected. He also says that the antiquity of the disease dates back as far as 3500 years. Of 700,000 persons examined in the United States 35 per cent were found to be infected with hookworm. It has been estimated that 2,000,000 in the South were suffering from this disease. The disease was probably introduced here by the slaves. Prevention: The most effective way to pre-	The victims of hookworm become pale and weak and also develop other symptoms. They are retarded both mentally and physically. "Dirt eaters," "poor whites" and "lazy niggers" are some of the terms applied to the persons infected with these parasites.	Hookworm is a disease due to the presence in the intestines of small worms called hookworms which as adults attach themselves to the small intestines of their host where they feed on the blood which they suck from the wall and give off poisonous secretions. The hookworm may get into the intestines; (1) by direct passage from mouth through esophagus and stomach, or (2) through skin, (causing ground itch) blood to lungs, to throat, and then swallowed. There is a discussion now as to whether they pass through the stomach but in any event the circuit	The eggs of the hookworm pass out of the alimentary canal with feces and fall on the ground, either for the lack of a privy or by using one not properly protected, where, under favorable conditions of warmth and moisture, in 24–48 hours the embryo is hatched on the ground, ready to attack another victim. In three days it is in infectious stage. In moist soil it can go five feet per hour in straight line. Therefore the soil for several yards may become infected from one feces. The hookworm may live 18 months if conditions are favorable. Complete dry-	The treatment of a drug called thymol was given in first campaigns to make the worm let go the bowels followed by salts to cause them to pass quickly. Now, castor oil with oil of chenopodium, followed by castor oil is used. A doctor should administer hookworm treatment. Teachers should emphasize proper sanitation, sanitary privies. One great difficulty in fighting hookworm is the ignorance and lack of ambition among hookworm infected populations.

vent hookworm is to prevent soiling the ground with bowel discharge. This means good privies must be built throughout hookworm regions and their use must be enforced by legislation and education. "Every house should have a sanitary privy; every school should have two sanitary privies." Other precautionary measures against hookworm are wearing shoes, having water supply carefully guarded against infection, watching source of raw food, carefully washing same as double precaution, and personal cleanliness.

The only way to purify and keep soil free of infection is to follow plan below:

from infected skin to intestines is a direct route.

ing up is fatal to egg and larva in all stages.

Hookworms get into the body; (1) by drinking polluted water, (2) by eating uncooked vegetables grown on polluted soil. (3) by eating with soiled hands, (4) by worm boring through exposed flesh while on polluted soil. The soles of bare-footed children and adults offer an easy access for hookworm, however, any part of body exposed may give access.

Common Infectious Diseases

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Hookworm (cont.)	Build sanitary privies and latrines and require their use. Give treatment to all infected persons. Teach people to protect their skin from infection. Disinfect the soil already infected by strong salt solution or other disinfectant.				

THIS PAGE MAY BE USED FOR NOTES

Common Infectious Diseases

Disease	Prevalence, Prevention	Symptoms	Cause	Mode of Infection	Treatment
Tuberculosis. Tuberculosis is a highly infectious disease but is also preventable and curable. Tuberculosis is often called the Great White Plague and is rated the most deadly of all bacterial diseases. It is one of the oldest diseases recorded. Treatises 400 B. C. discuss it, and Egyptian mummies show signs of its ravages. Tuberculosis may grow in any part of the body; lungs, skin, intestine, kidneys, bones, etc. There is a name for each form. Tuberculosis of the lungs is called pulmonary tuberculosis or consumption, and causes by far the	Prevalence: In the United States approximately 100,000 persons die annually from tuberculosis. There are approximately 150,000 cripples in America who were crippled by tuberculosis. Ten per cent of all deaths under 15 are due to tuberculosis. Prevention: The prevention of tuberculosis is a four fold problem. The first problem is to diminish the spread of tubercle-bacilli from the infected to the well person. This can be done (1) by education of infected persons in the need for and methods of preventing	Loss of weight and strength, loss of appetite, sense of fatigue on slight exertion, rapid heartbeat, indigestion, slight fever in the afternoon, cough lasting a month or longer, (though cough is not always present at first), and night sweats are symptoms that should lead to immediate medical examination. Enlarged glands are sometimes tuberculous. Adenoids and enlarged tonsils may be infected, while Terman warns us that "The child with frequent or occasional pains, slight rigidity or tenderness of the joints, should be an	Tuberculosis is an infectious disease caused by a slender, rod-like germ called the tubercle-bacillus, so small that it takes three thousand put end to end to measure an inch. It is slow growing after it enters the body, but it is hardy and unless the bodily resistance is strong, it grows, multiplies and finally destroys the tissues.	The chief sources of tubercle-bacilli are human patients (consumptives) and cows affected with tuberculosis. In human tuberculosis every tiny speck of mouth discharge of a consumptive abounds with tubercle-bacilli. Therefore everything the mouth of the infected person touches — forks, spoons, glass, cup, may be infected. If the hands are soiled with mouth discharge germs may be left on papers, books, pencils, doorknobs, baby's toys, food, other people's hands. The uncovered sneeze or cough of the tuberculous patient will scatter	The treatment for tuberculosis includes abundant rest in bed, without worry, fresh air day and night, direct exposure to sunlight. The eating and digestion of an abundance of good nourishing food. A suspicious case should not waste time on patent medicines or quack cures but go to the best doctor in reach for thorough examination and minute directions on personal care and methods for protection of others. A wise patient will follow the doctor's directions. Latent infection is apt to become active when the infected person is

greatest number of deaths; tuberculosis of the spine is called hump-back or Potts disease; tuberculosis of the knee or ankle, white swelling; tuberculosis of the glands of the neck, scrofula; tuberculosis of the skin, lupus.

spread of their infection to others, (2) by isolation of advanced cases; (3) by enforcement of anti-spitting laws with careful education and supervision in destruction of sputum of all diagnosed cases of tuberculosis; (4) by direct instruction and training of adults and children in the nature and prevention of this disease. With children this should center around training in health habits.

The second problem in prevention of tuberculosis is concerned with standards of living. Acute epidemics of this disease are almost inevitable during and after war or during a financial catastrophe where there is

object of suspicion." These cases and the child with an unaccountable limp should receive prompt examination by a doctor.

millions of these germs in the air where they may be directly inhaled or where they may dry and later be inhaled in dust or swallowed on food. Dried sputum from handkerchiefs, bedding, clothing, or infected dust from rugs or floors may be inhaled or swallowed by well persons. People may carry sputum from the street on their shoes to the floor where the baby crawls. Flies carry the germs on their feet and a single fly speck is said sometimes to contain 5,000 germs of tuberculosis.

Tuberculosis is not hereditary but the majority of children of tuberculous parents inherit an environment filled with tubercle-bacilli.

over-fatigued from loss of sleep, overwork, worry or excessive amusements, is dissipated from alcoholics or is exhausted from illness.

With early treatment, recovery is almost sure. Unfortunately early symptoms are not typical. In tuberculosis of the bones and joints deformity has frequently set in before diagnosis is made. Treatment of tuberculosis of the bones and joints falls entirely within the doctor's jurisdiction. However the teacher should be constantly on the alert to detect suspicious cases.

Common Infectious Diseases

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Tuberculosis (cont.)	universal unemployment, bad housing, inadequate food supply, and undue exposure from lack of fuel and clothing. The third problem of the prevention of tuberculosis is developing and keeping a high bodily resistance by sane living—(1) abundance of wholesome food, (2) fresh air, day and night, (3) direct exposure to sunlight, (4) outdoor exercise, (5) avoidance of excessive fatigue, (6) sufficient rest and sleep. The fourth problem is the prevention of infection from cows affected with tuberculosis. This can be done			Since it is during infancy and early childhood that people are most susceptible to infection this danger should be carefully guarded against. A tuberculous mother should never nurse, kiss or sleep with her child, nor should any tuberculous member of the family or nurse be allowed close personal contact with children. The chief school danger, so far as tuberculosis is concerned, is from an infected teacher, from school-room conditions that encourage the development of latent infection in the child and from neglect of early diagnosis.	

(1) by laws requiring tuberculin tests for all milk cows,
(2) by use of certified milk, (clean milk from tuberculin tested cows)
(3) by pasteurizing all raw milk.

In bovine tuberculosis the disease is contracted from drinking milk from an infected cow. Bovine tuberculosis, however, does not cause tuberculosis of the lungs, but tuberculosis of the bone, joints and glands, therefore the human being infected with bovine tuberculosis cannot infect other persons.

Common Infectious Diseases

Diseases	Cause	Prevention	Results	Mode of Infection	Treatment
Colds. A serious and acutely infectious disease.	Direct cause: Cold germ in the presence of a congestion of the blood in the mucous membranes of nose, throat or lungs. Predisposing cause: Lowered vitality caused by fatigue, lack of wholesome food, over-eating, lack of sleep, exposure, wet clothing, poor elimination, previous illness, poorly educated skin, lack of exercise, incorrect ventilation, adenoids, diseased tonsils, diseased or unclean mouth.	To build resistance to colds, keep bodily health up to high standard by, 1. Nutritious, laxative diet. (avoid constipation). 2. Sufficient outdoor exercise. 3. Good ventilation (68° or below). 4. Sufficient sleep and rest, (avoid fatigue and worry.) 5. Education of skin, (quick cold bath or shower followed by brisk rubdown every morning). 6. If susceptible to colds, have medical advice, particularly on condition of nose and throat.	The after effects of colds are invariably serious and often quite far reaching into the future. Some of these effects are, 1. Lowered bodily resistance. 2. High susceptibility to other infectious diseases. 3. More or less serious nose and throat trouble, bronchitis, tonsilitis, pneumonia, infections of the sinuses. 4. Severe or frequent colds may cause ear trouble.	Mouth and nasal discharges of infected person, spread by, 1. Direct contact as kissing, close conversation, uncovered cough and sneeze. 2. Soiled hands. 3. Sputum. 4. Drinking cups, soiled towels, handkerchiefs, bed linen, table linen, toilet articles, pencils, books, partially eaten foods. 5. Unsterilized table ware—silver, china, glasses. 6. Telephones. (If cold patient uses the telephone, it should be disinfected immediately afterward.)	The only way to avoid serious consequences from acute colds is to have proper treatment. It never pays to drive oneself to work or out with people when suffering from cold. In first case inefficient work and serious, prolonged illness may follow, in second case may spread infection to others. General treatment: Rest in bed in a well ventilated room. Take brisk cathartic. Eat simple food, including fresh fruit juice. Drink quantities of water.

Note: Teacher should concentrate on prevention of colds among her pupils by having a clean, well ventilated classroom (68° or lower) by avoiding fatigue, by outdoor play, by teaching the need of personal possessions, by the clean hand habit and the habit of covering every cough and sneeze with a clean handkerchief handled with left hand to prevent soiling right hand. This should be done because; (1) colds are contagious, (2) they lower vitality and resistance of pupils, (3) many other contagious diseases, as measles, start with the same symptoms as a cold in the head.

Common Skin Diseases of School Children

Disease	Prevalence, Preventions	Symptoms	Causes	Mode of Infection	Treatment
Scabies. (Itch).	Epidemics rare because of the cleanliness of modern civilization, but still found in low walks of life, in war time and among school children. Prevented by personal cleanliness, avoiding direct contact with infected person and by avoiding use of public towels, soiled bed linen, books, pencils, etc. of infected persons.	Intense itching, particularly between fingers, toes, arm pits, neck and groins where skin is thin.	Itch mites, minute whitish creatures, barely visible to naked eye and the poisonous substance secreted by the mites. Female burrows in epidermis in which she lays her eggs.	Passage of male and female mites, or impregnated female from infected to healthy person. This usually occurs at night. Mite may live 3-10 days away from its host.	Soaking bath of green soap and warm water followed by generous application of mite poison rubbed in the skin and left over night. Bath next morning. Boil or bake all soiled clothing and bedding. Repeat treatment if necessary. Mite Ointments. (1) Sulphur. ½ oz. Lard ..... 10 oz. Mix well and apply. (2) Balsam of Peru lard or vaseline. Equal parts, mix well and apply. (3) Beta Napthal. 75 grains Olive Oil ..... 2½ fluid grams Sulphur .... 1 oz. Lanolin .... 1 oz. Green soap. 1 oz. Mix well and apply. (Most effective.)

Common Skin Diseases of School Children

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Pediculosis or Pediculus Capitis. (Head lice).	Has decreased in civilized countries except in time of war but frequent among school children, particularly foreign children. Cleanliness in person and in living quarters worst enemy to pest.	Severe itching of scalp, inflammation of skin by lice.	Infestation of scalp by small round flat lice, which cause inflammation of skin, sometimes sores and bleeding. Lice may carry disease from one host to another. Head lice have been known to carry bubonic plague and syphilis is thought to be sometimes carried by them.	Lice distributed by contact or close association with infected person; borrowed combs, brushes, hats, caps; millinery shops; infected sleeping quarters as poorly kept hotels and sleeping cars.	Perfect cleanliness in person and fumigation or sterilization of clothing and bedding usually result in elimination. But if infestation is well established, soak head thoroughly at night with one of the following formulae: (1) With larkspur and alcohol. (2) With 2 per cent carbolic acid solution. (3) With a kerosene emulsion (2 per cent kerosene and olive oil), (4) or with equal parts of kerosene and vinegar. Note: Remember, kerosene is inflammable. Keep patient away from fire until head is

dry if it is used. Vinegar is good to dissolve the sticky substance that holds the nits to the hair. Cover head with towel, leave on over night, wash head next morning with soap and water, using fine tooth comb to comb out nits. This may have to be repeated at intervals of a couple of days for two or three applications, as the nits are hard to kill especially in long hair.

Common Skin Diseases of School Children

Disease	Prevalence, Prevention	Symptoms	Causes	Mode of Infection	Treatment
Ringworm. Ringworm of scalp. (trichophytosis capitis) Ringworm of body. (trichophytosis corporis or tinea circinata) Ringworm of nails. (trichophytosis unguim) Ringworm of beard. (trichophytosis barbae)	Ringworm of head is most common type—quite prevalent among children but rarely seen after early teens. Ringworm of body next in prevalence with ringworm of nails and body in order given. To prevent ringworm, avoid direct contact with infected person, cat, dog, cow or horse; avoid use of clothing, toilet articles of infected person; avoid poorly managed millinery shops, old clothes shops unless garments have been baked.	Begins as small round, scaly spot which steadily enlarges. Sometimes these spots are quite red with eruptions, sometimes dry, grayish, scaly. If infection is on hairy surface, hair in these spots becomes dry and brittle—breaks off and can be pulled easily. There is more or less itching and some inflammation. When severe there is swelling and severe pain.	Invasion of skin and its appendage by vegetable parasites (fungi) belonging to the trichoplyton order of molds.	Carried by clothing, toilet articles, immediate contact and by lower animals as cats, dogs, cows, and horses. Most inflammable type comes from lower animals.	If not carefully treated will spread and last for months. Some types will become chronic. X-ray most rapidly effective treatment but must be in hands of skilful and careful worker. Intelligent and persistent application of a parasiticide in form of wash or ointment also effective. Formulae: (1) Iodine, either ordinary tincture or somewhat diluted. Paint all patches once or twice daily. (2) Iodine, 1 drachm. Goose grease, 1 oz. Apply twice daily. (3) Sulphur ointment rubbed in twice daily.

THIS PAGE MAY BE USED FOR NOTES

Common Defects of School Children

Defect	Symptoms	Results	Causes	Method of Examination and Instruction	Care
Teeth. Carious teeth. Diseased gums. (Pyorrhea.) Irregular, crooked, crowded, overlapping, or projecting teeth. (Dr. Fletcher B. Dresslar says that dental disease is the most widespread disease now affecting civilized nations.)	Tooth ache. Sensitiveness of teeth. Bleeding and receding gums. Both visible and invisible accumulation of tartar. Halitosis. (Bad breath.) Note: while halitosis may be caused by other conditions Dr. Thomas B. Hartzell says: "Bad breath is almost always due to a putrefactive coat on the tongue of dead epithelium and putrefactive bacteria. It is almost instantly overcome by scouring tongue with Deloxyl."	Poor mastication. Retarded digestion. Gradual loss of teeth. Certain speech defects. Source of infection of entire body. Foul breath. Unsightliness. Statistics show that oral defects are closely associated with poor scholarship. (Dr. William Osler accredits more physical degeneracy to neglect of the teeth than to the abuse of alcohol.)	Incorrect diet. a. Lack of mineral salts during prenatal life. (Pregnant mother must have diet rich in lime as green vegetables, fresh fruits, milk, whole wheat breads. b. Lack of above during infancy, childhood and even adulthood. c. Soft foods that do not give teeth, gums and jaws sufficient exercise. Incorrect methods of cleaning teeth and insufficient stimulation of circulation in gums. Neglect of temporary teeth.	Preliminary examination for cavities, cleanliness of teeth, health of gums made by teacher. For this examination, the teacher should have child face light and open his mouth. General conditions noted may be checked, (√) for good, (X) needing attention, (XX) immediate attention—urgent. This preliminary examination should be followed by visit to dentist. Class-room teacher and school nurse should emphasize care of teeth, should encourage visit to dentist for cleaning teeth. Tooth brush drills, stor-	Everyone should visit a dentist at least twice a year. Direct treatment of teeth and gums is business of family dentist or dentists at school dental clinic. Oral hygiene: Dr. Thomas B. Hartzell says that the layman needs to know two things in the care of the mouth, 1. Correct food, 2. A method of cleaning the teeth that will stimulate the circulation of the blood in the gums. He states that this stimulation of the gums does three things—(1) it breaks up the mold placks around the teeth; (2) it drives the bacteria out of the gums into the blood stream so

ies, dramatization and posters followed by demonstration and direct talks on the care and protection of the teeth will enlist children's interest in this vital problem.

"The object of scouring teeth is two-fold: to remove destructive bacteria and to stimulate circulation in their nourishing tissues."

Dr. Thomas B. Hartzell.

that the phagocytes can destroy them; (3) it brings fresh blood to the teeth and thereby stimulates bony growth.

Dr. Robert L. Dement expresses this need for stimulation of the gum, when he says, "Do not think so much of brushing the teeth, think rather of brushing the gums, if this is done properly the teeth will incidentally be thoroughly brushed."

Personal care of teeth and gums.

Equipment:

1. At least one clean toothbrush—youth size—soft. (Dentists now advise 2 or more other toothbrushes of different shapes.) Soak brushes in salt water to soften.

2. Dental tape—(size 3-A)

Common Defects of School Children

Defect	Symptoms	Results	Causes	Method of Examination and Instruction	Care
Teeth (cont.)					3. Dentrifrice—a non-abrasive toothpaste. 4. Box of table salt. 5. Bottle lime water for toughening gums. Care: Brush teeth three or four times per day. 1. Before breakfast—brush 5 minutes and rinse. (1). To brush outside of teeth put teeth together and brush round and round first one way, then the other. Be sure to include gums. (2). To brush inside of teeth place brush well up on gums and brush toward chewing surfaces. (4). Use little pumping move-

ment of brush behind back jaw teeth.

(5). Brush roof of mouth and tongue.

2. After breakfast brush lightly, rinse well, use dental tape.

3. After lunch—brush lightly or just rinse well.

4. Before retiring—gum treatment with salt water (soak brush in solution 1/3 teaspoon to 1/3 pint warm water). Brush and rinse as in No. 1, use tape. Hold diluted lime water in mouth for two minutes.

Note: A good 5c tooth brush on market puts a tooth brush in reach of every one—source Takamine Corporation 208–216 Rawson St., Long Island City, New York.

Common Defects of School Children

Defect	Symptoms	Results	Cause	Method of detection	Treatment
Ear defects. Defects of hearing more prevalent than teacher thinks. The deaf child is invariably sensitive and often clever at lip reading.	Running ears. Earache. Furuncles. (boils in ear) Partial or total deafness, resulting in inattention.	Earache sometimes, queer noises sometimes. Partial or total deafness. a. Deafness gives impression of mental defectiveness. Many so called stupid and some incorrigible children are deaf, not inately stupid or bad. b. Deafness, serious handicap in school, social and business life. Bad emotional reactions invariably follow deafness. "A queer personality" or worse "a shut-in" personality may result from it.	Direct causes: Adenoids. Diseased tonsils. Acute illness, especially from the so-called children's diseases. Catarrh of the middle ear. Indirect causes: Swimming or diving in infected water. Probing or scratching ear with hairpin or any other instrument used by any one except a doctor. Rule for laymen: "Nothing smaller than elbow should be put in the ear." Slap or blow on side of head. Putting foreign bodies in the ear. Making ear overflow tank for soap and water. (Outer ear should be care-	The easiest methods for detection of defects of hearing are the watch and whisper tests. The watch test is most effective though whisper tests may be used to help check "suspects." For watch test use loud ticking watch—Ingersoll or stop watch. This should be heard by normal ear at a yard's distance under normal conditions. For watch test, have pupil close one ear by slight pressure of fore-finger against outer opening of ear and close eyes. Examiner should stand to side or rear of child with watch.	Prompt, careful and persistent treatment by an ear specialist is the only hope of correcting or retarding deafness when there are ear defects. His treatment will include removal of causes, treatment of ears, and suggestion of hygienic care of ears and general health.

fully washed and dried daily, inner ear has self-cleansing wax.

For whisper test, place child twenty feet away from and with back turned to examiner. One ear closed as in watch test. Examiner gives any simple action commands in whisper.

Common Defects of School Children

Defect	Symptoms	Results	Causes	Method of examination	Treatment
Defects of the eye: Cross-eye. Myopia. (Near sight.) Hypermetropia. (Far sight). Astigmatism. (Unequal curvature of different parts of cornea.) Highly infectious eye diseases: Pink eye. Trachoma. (Contagious and dangerous granular inflammation of inner surface of eyelids.) Ophthalmia neonatoriun. (Gonorrheal eye infection, sometimes present in newborn, very contagious and cause of one half blindness of infants.)	Symptoms of defects: Headaches. Blurred or indistinct vision. Peculiar carriage of the head. Holding book or work too close to eyes. Symptoms of diseases: (1) Sudden redness of eyes. (2) Sensitiveness to light. (3) Any undue discharge.	Results of defects: (1) Eye strain. (2) Impaired vision. Results of diseases: Impaired or total loss of vision.	Hereditary factor. General ill health. Acute diseases as measles, scarlet fever. Excessive use of eyes and other bad habits as reading in reclining position, in moving cars, in twilight, facing light, etc. Fine print and glazed paper. Poor lighting and incorrect seating in school. Irritating factors as dust, chemicals, excessive heat. Diseases, as pink eye or trachoma, spread by common wash basin, common towel, soiled hands or soiled handkerchief.	Preliminary examination may be made by teacher or medical inspector. McCallie's vision test card may be used for kindergarten and first grade children. Snellen's vision test card may be used for older group. Details for test on test card.* Children who wear glasses should be tested with glasses. Care should be taken that light on test card is good but not glary, that child does not face light, that card used to cover one eye while other eye is being tested, does not press on eye.	Examination for treatment for glasses should be made by eye specialist — oculist, not optometrist. Treatment for disease by doctor, preferably by specialist. Teacher and nurse should emphasize hygiene of eye by use of stories, blackboard lessons, posters, dramatization, etc.

* Do not leave test cards out for children memorize them quickly.

Common Defects of School Children

Defects	Symptoms	Results	Causes	Method of detection	Treatment
Adenoids. (Growth of adenoid tissue in the nasal passage.)	Mouth breathing. Chronic catarrh. Nasal voice. Snoring. Depression. Cases of long standing have typical adenoid faces, short upper lip, crowded and protruding upper teeth, noticeably broadened bridge of nose with pinched nostrils. Some advanced cases show protruding eyes and some bleary watery eyes. In some cases adenoid tissue may be seen in nasopharyngeal passage.	Adenoids interfere with nasal breathing which results in: 1. Partial suffocation, sluggishness, nervousness, irritability, pallor. 2. Mouth breathing which malforms mouth and upper jaw, and prevents filtration of air. 3. Increased susceptibility to colds, sore throats and other germ diseases. 4. Lack of resonance in singing and speaking. Adenoids cause: Deafness; Acute inflammation of the throat; Chronic catarrh; Mental retardation; Adenoids interfere: With nutritional processes; With normal physical growth.	Some children have tendency for abnormal growth of adenoid tissue. The pernicious habit of the "pacifier" during infancy The very bad habit of thumb sucking.	External symptoms if examination is made by teacher. (Teacher should never put fingers inside child's nose or throat.) Examination of nasal passages either through mouth or nose if examination is made by medical inspector.	Some authorities say small amount of adenoid tissue may be absorbed if infant or young child is made to breathe through nose, but this is very rare. Generally speaking the only cure for adenoids is surgical removal of adenoid tissue. Work should be done by nose and throat specialist without delay. Sometimes adenoids have to be removed a second and even a third time.

Common Defects of School Children

Defect	Symptoms	Results	Causes	Mode of detection	Treatment
Diseased Tonsils.	The tonsils are two small oval bodies situated one on either side of the throat on line with back of tongue. Some enlarged tonsils are not seriously diseased. Some normal size tonsils may be perforated and full of pus. Some very small and some imbedded tonsils are badly diseased. Frequent tonsilitis is the surest symptom by which the teacher or parent may judge that tonsils are bad and in need of immediate attention of a competent physician.	In diseased condition tonsils are weakened so that they can no longer perform their natural function as active lymph glands which destroy germs of infection and they become "camping grounds of these germs." They harbor germs that cause tonsilitis and acute inflammatory rheumatism, which frequently attacks the valves of the heart. May contain tubercle bacilli, also germs that attack red blood corpuscles. Menace to hearing. Interfere with nutrition.	Too many attacks of acute inflammation of the tonsils as diphtheria, scarlet fever, and tonsilitis. May also become diseased from conditions caused by bad health and poor nutrition.	By careful medical examination. By symptoms, (frequent tonsilitis or sore throat, the symptom for teacher to accept as foundation for urging thorough examination by throat specialist.)	All treatment of tonsils should be in the hands of a competent and ethical physician or surgeon. Whenever medical treatment can be used successfully tonsils should be saved. Whenever this is not practicable complete and prompt surgical removal of the tonsils should be made.

THIS PAGE MAY BE USED FOR NOTES

Common Defects of School Children

Defect	Symptoms	Results	Causes	Method of detection	Treatment
Malnutrition. ("A low condition of health and body substance.")*	Underweight for height and age. Anemia as expressed by paleness of mucous membrane inside eyelids and mouth, paleness of nostril, lips, and lobes of ears. Lack of muscular tone. Round shoulders, flat chest.	Lack of spirit and energy, tires easily, nervous, irritable, a light sleeper, and indifferent or "fussy" about food. Apt to be retarded in mental development. Incapable of resisting disease. "Tends to become disabled and unemployed."	Bad heredity. Remedial physical defects as adenoids or other nasal obstruction, bad teeth, diseased tonsils, recent illness, eye strain. Diseases as tuberculosis, hookworm, tape worm. Poor hygiene: a. Insufficient sleep and rest. (Too much excitement.) b. Lack of fresh air. c. Lack of outdoor exercise. d. Worry. Incorrect feeding: a. Faulty home conditions, over-indulgent, neglectful or ignorant parents. b. Insufficient food. c. Poorly selected food. d. Badly prepared food.	General appearance of child as to vigor, alertness, posture. Musculation, as good firm muscles. cles. Color or complexion as clear rosy skin. Relation of weight to height and age. (Use scales and tape measures then compare to standard weight chart for boys and girls.) The annual gain both in weight and height.	Correction of any remedial defect. Treatment of any disease. Organization of malnutrition class —not exceeding twenty in number. Weekly meeting of children and parents under direction of nutrition workers and physician: a. Careful medical examination of each child in class. b. Tactful effort to get co-operation of parents and to educate them in home care. c. Weekly weighing of child, (record of weight kept on individual graphs and on class-room weight record), followed by educational program for both child and parent. Correction of too

* Roberts, Lydia. "What is Malnutrition."

e. Faulty habits of eating, as bolting food, insufficient mastication, washing food down with water.

strenuous school program.

School feeding:

a. Mid-morning lunch of one half pint milk, two graham crackers or fresh fruit juice or bread and butter sandwiches.

b. Hot school lunch followed by rest period of at least thirty minutes in reclining position.

Incentives which may be used for stimulating the underweights:

a. Being attractive.

b. Being athletic, making the team.

c. Rivalry with each other and with themselves.

Remember: If the good results of a nutrition class are to become permanent an educational program for both children and parents is necessary.

Rules for the prevention of infectious diseases in schools

The rules prepared by Dr. S. A. Knopf of New York City, entitled "Simple Rules for School Children to Prevent Tuberculosis,"* give an excellent basis for desired health habits:

"Do not spit except in a spittoon, a piece of cloth or a handkerchief used for that purpose alone. On your return home have the cloth burned by your mother, or the handkerchief put in water until ready for wash.

Never spit on a slate, floor, playground or side-walk.

Do not put your fingers in your mouth.

Do not pick your nose or wipe it on your hand or sleeve.

Do not wet your fingers in your mouth when turning the leaves of books.

Do not put pencils in your mouth or wet them with your lips.

Do not hold money in your mouth.

Do not put anything in your mouth except food and drink.

Do not swap apple cores, candy, chewing gum, half-eaten food, whistles, bean blowers, or anything that is put in the mouth.

Peel or wash your food before eating it.

Never sneeze or cough in a person's face. Turn your face to one side or hold a handkerchief before your mouth.

Keep your face, hands, and finger nails clean.

Wash your hands with soap and water before each meal.

When you don't feel well, have cut yourself, or have been hurt by others, do not be afraid to report it to the teacher.

Keep your self just as clean at home as you do at school.

Clean your teeth with tooth-brush and water, if possible after each meal; but, at least on getting up in the morning and on going to bed at night.

Do not kiss any one on the mouth or allow anybody to do so to you.

Learn to love fresh air, and learn to breathe deeply and do it often."

* Courtesy of Dr. Knopf.

Dr. H. W. Hill in his book "The New Public Health" * suggests the following procedure for the control of infectious diseases in the schools:

Placard for Schools

The germs of infectious diseases are in the discharges of infected persons. Infectious diseases are "caught" from infected persons simply by taking into the mouth some portion usually very small, of their infected discharges.

The Great Rules of Prevention in Schools

1. Exclude from school all infected persons, thus excluding all infectious discharges.

2. Since infected persons may enter school at times despite the greatest vigilance, restrict, so far as possible, the scattering of any discharge of any person at any time in school. (This will also train the children to restrict their discharges out of school and in after-life.)

a. Mouth discharges are transferred directly to and taken directly from drinking-cups, towels, pencils, chewing-gum, whistles, etc. Mouth, nose, bladder, and bowel discharges are transferred directly to hands many times daily. Hands go to mouths many times daily; therefore—

Provide individual drinking-cups, individual towels, individual pencils, individual modeling-clay, individual modeling-sand, etc. (There should be a sign in every school, "Wash your hands after every visit to a toilet.")

b. Sputum (spit) or other discharges, deposited on floors, sidewalks, etc., are picked up by shoes and so carried into homes. When handling shoes (putting on, taking off, etc.), discharges are transferred to hands, which go to mouths, or touch things that go to mouths. Therefore—

Avoid depositing discharges,—sputum, etc.,—on floors, sidewalks, or elsewhere where other people may step on them.

c. Mouth-spray is thrown out in talking, singing, coughing, sneezing, etc., therefore—

Avoid throwing mouth-spray into other people's faces by avoid-

* Macmillan Company, New York, pp. 107–108. Used by permission of the publishers.

ing close face-to-face conversation, face-to-face recitations, face-to-face singing exercises, etc. Cough, sneeze, etc., into a handkerchief always.

d. The air of a schoolroom in use necessarily receives mouth-spray into it in talking, reciting, etc.

e. Bladder and bowel discharges are carried by flies when flies get at them. During early autumn and late spring or summer sessions, flies may carry these discharges from toilets to children's lunches, etc., therefore—

Make toilet-vaults fly-proof. Provide springs or weights to automatically close toilet-doors, and fly-screens for toilet windows.

f. Three things destroy comfort and success in school work: Temperature too high; atmosphere too dry; air not in motion. Also, no child can work in a poorly lighted room; but do not imagine that good lighting, good heating, and good ventilation will prevent spread of infection if infected persons gain entrance. No school is a sanitary school if the children exchange their discharges without restriction; but only those schools where infected persons are watched for and excluded are safe schools, therefore—

Note daily the general state of health of each child. No child who shows any decided change from the usual for that child, especially fever, headache, sore throat, stomach-ache, or general dumpishness, should attend school until seen by a physician. This rule permits early detection of infected children. It also excludes children who should be excluded for their own good, even if not infected.

g. Children showing defective vision, hearing, breathing, etc., should be referred to the principal, superintendent, or school board for action."

Reason for increase in eye defects as child progresses into the upper grades

1. Failure to note early symptoms of eye strain among the children.

2. Poor lighting—insufficient light or light from the wrong direction. (Light should come over the left shoulder and there should be sufficient quantity for dark days, though direct rays of sun should not be permitted).

3. Incorrect seating—the desk and seat must sustain a definite relation to each other and to the size of the child. (Adjustable seats

and desks adjusted at least twice during the school year should be the rule.)

4. Poorly arranged school schedule, that permits too constant close use of the eyes. The school program should include frequent rest periods and a variety of work.

5. Books with too small type—all type and handwork should be especially planned to meet eye ability of the grade for which it is planned. (The muscles of the eyes used in delicate work, like other finer muscles of co-ordination are late in developing).

6. Teachers are prone to forget to protect the eyes of children immediately after an illness.

Eye Don'ts for School Children

1. Don't put your finger in or around the eye unless it is clean. (A soiled hand or glove may carry serious eye infection).

2. Don't use a common towel. (The public towel is a constant eye menace).*

3. Don't read or work indoors or outdoors with a glare on your work.

4. Don't read in a flickering light.

5. Don't read in a reclining position.

6. Don't try to read in a moving car or train.

7. Don't face the light in reading and working. For reading or writing it is best to have the light come from the left and above the shoulder.

8. Don't expose the eyes to direct or unshaded light. A well shaded light may look dim but the concentration of it on your work may give you excellent light.

9. Don't have dark walls and heavy dark draperies in your home, school or place of business. The first absorb too much light, and the latter keeps light out.

10. Don't forget to keep your lights and windows clean.

11. Don't allow a toxic condition of the blood supply, for any interference with a pure blood supply to the eye interferes with its healthful function as well as any other organ.

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* "Pete," story of the roller towel, Chapter XVII.

12. Don't allow the eyes to become fatigued. Break long periods of close work by (1) closing eyes for a moment at short intervals, (2) taking a distant range of vision occasionally.

13. Don't hold head down while using the eyes—the extra supply of blood to the eyes blurs the vision and mental image.

14. Don't forget to think of prevention of eye accidents, wear goggles wherever an accident situation may be expected.

15. Don't forget that any unusual eye condition should have the immediate care of a physician.

Abbreviated Card Form of a Teacher's Health Survey of the School Child*

Name.....School.....

Grade.....Age.....

Date.....

		Yes	No
1.	Have you ever been in a grade more than one year?.		
2.	Have you ever had any serious sickness?.....		
3.	Do you feel strong and well now?.....		
4.	Do you eat breakfast every day?.....		
5.	Do you eat a noon meal every day?.....		
6.	Do you drink coffee?.....		
7.	Do you always have your bedroom window open at night?.....		
8.	Have you been to a dentist within a year?.....		
9.	Do you have toothache often?.....		
10.	Do you own a toothbrush?.....		
11.	Do you use your toothbrush every day?.....		
12.	Do you have a toothbrush of your own?.....		
13.	Do you have much trouble with headache?.....		
14.	Can you read writing on the blackboard from your seat?.....		
15.	Does the print in your books run together or look dim or crooked?.....		

* Form suggested by Dr. E. B. Hoag in "Organized Health Work in the Schools." Bulletin U. S. Bureau of Education, 1913.

Abbreviated Card Form of a Teacher's Health Survey of the School Child—Continued

		Yes	No
16.	Do your eyes hurt after reading a good while?.....		
17.	Do you sometimes see two letters or two lines instead of one?.....		
18.	Do you often have earache?.....		
19.	Do your ears ever run?.....		
20.	Can you always hear the teacher?.....		
21.	Do you go to bed at nine o'clock?.....		
22.	Do you go to bed by ten o'clock?.....		
23.	Do you bathe at least once a week?.....		
24.	Have you ever been vaccinated?.....		
25.	Have you ever had smallpox?.....		

* Remarks.....

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Individual Assignments and Class Discussion

Health Inspection

1. Have students weigh and measure themselves to see if their weight is correct for their height and age. Have general discussion on probable causes of their overweight or underweight. Make a survey of weight for height of children in some convenient local school.
2. Have students give each other Snellen vision test, watch and whisper test, posture test. Also examine each other's mouths and throats for unclean and carious teeth, diseased gums, and diseased tonsils.
3. Evolve a complete teacher's health survey form by class discussion. Have these copied.

Infectious Diseases

1. Bacteria and human disease.
   References: Jordan, E. O. "General Bacteriology." W. B. Saunders Philadelphia. (Chapters I and III.) Broad-

* Find out also the child's weight and height.

hurst, Jean. "How We Resist Disease," J. B. Lippincott Co. Philadelphia, (Chapter 1.)

2. Sterilization: Methods of studying bacteria.
   Reference: Jordan, (as above) Chap. II.
3. Immunity.
   Reference: Jordan, (as above) Chapter VIII. Broadhurst, (as above) Chapter II–III.
4. Discussion and demonstration of purifying water.
   Reference: Weed, H. T. "Chemistry in the Home," American Book Co., New York, Chapter II, or any other good household Chemistry.
5. The protection of food from harmful bacteria.
   Reference: Any good Domestic Science text.
6. Milk, its healthful production and care.
   Reference: (See Chapter XXIII).
7. Discussion and demonstration of pasteurization of milk.
8. What are the symptoms, mode of infection, period of exclusion recommended, and after effects of the "so-called" children's diseases—measles, German measles, scarlet fever, whooping cough, diphtheria, chickenpox?
9. Contrast the ideas of the old and the new public health.
   Reference: Hill, H. W. "The New Public Health," The Macmillan Company, New York.
10. Make a survey of local health laws including officers and their duties.
11. The personal equation in public health problems.
12. Thumbnail biographies of some of the great leaders in the fight against infectious diseases.
13. When and how to teach diseases to children.
    Reference: Andress, "Health Education in Rural Schools" Chapters II, VI, VII, VIII, IX. Jones "Keep Well Stories," Hill, "The New Public Health."
14. Make a series of lessons on (1) the fly, (2) the mosquito, (3) the rat, giving references for teacher, illustrative material, and suggestions for student activity.
15. Make detailed plans for a public health exhibit that could be developed by school children.

REFERENCES

Cornell, W. S. "Health and Medical Inspection of School Children." F. A. Davis Co., Philadelphia, Pa. $3.50.

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Terman, L. M. "Hygiene of the School Child." Houghton Mifflin Company, Boston. $2.15.

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U. S. Department of Interior, Bureau of Education, Washington, D. C. School Health Studies. (8 bulletins price: 55c.)

U. S. Public Health Service, Washington, D. C. Leaflets and reports on Malaria, Hookworm, Typhoid Fever.

Metropolitan Life Insurance Co., New York, N. Y.

Prudential Life Insurance Co., Newark, N. J.

CHAPTER VI

PHYSICAL EDUCATION

"Physical Education should aim to provide an opportunity for the individual to act in situations that are physically wholesome, mentally stimulating, and satisfying, and socially sound."—Dr. Jesse F. Williams.

Physical education in history. If physical education is understood to include athletic sports, games, and other forms of recreational activity as well as gymnastics it is not only the best organized but the oldest division of the modern health education movement.

The value of different forms of physical training has been emphasized at intervals from the earliest authentic history down to the present time. Education in ancient Persia centered around the physical preparation of its youth for military campaigns. Ancient China, Egypt and India had some physical training. But the greatest national program yet achieved was developed by the ancient Greeks. During the supremacy of Greek civilization, athletic games were an integral part of Greek life. The form, grace, skill, and self-control demanded in these games are still standards for successful performance, while examples of Greek sculpture from this period are still the wonder and admiration of all who appreciate perfection of human form and the hygienic values represented by it. It is interesting to note that while all Greece was single-minded in its demand for physical training, the various states emphasized different aspects of this training. In Athens gymnastics emphasized beauty of form rather than great strength but Sparta, like Rome, trained its youth for war. The Spartan girls were the first in history to receive physical training.

In the first era of Christianity, physical training fell into a decline as it was taught that the body was the chief cause of sin and also "the prison house of the soul." In the middle ages, indifference to the human body continued. "Saintliness was often associated

with sickliness." The artist and the poet vied with each other in idealizing the lily-white face and wasp-like waist of the fragile type woman. The priest and scholar also wore a melancholy pallor. In the knight alone was splendid bodily development expected.

Modern ideas of physical education began in the 15th century. Vittorino daFeltro (1378–1446), great Italian "humanist" and school master led the movement. Francois Rabelais (1490–1553), French physician, philosopher and satirist was the notable 16th century leader in the revolt against mediaevalism. He urged youths to exercise one hour daily in open air before their ablutions. Milton and John Locke likewise encouraged physical training. Rousseau and Froebel (1826) first used calisthenic exercises for children, while Spencer, Ruskin and many other thinkers of the early part of the 19th century gave their support to the cause of health.*

Contributing influence to the modern school of physical education. While the Greek idea of physical training has undoubtedly given inspiration, there are five strong and distinctly modern schools of physical training which have taken part in the evolution of the modern physical training curricula. These have been the French school of fencing, the Swedish school of formal gymnastics, the German school of heavy apparatus work, the French school of rhythmic interpretation and the psychological school of physical training which bases its course of study on the natural play instinct. For lack of space, this discussion will center around the last named because the play spirit is the outstanding characteristic of the present day physical education program.

The play element in modern physical education. The origin of the play movement in physical training is due to the school of applied psychology both in this country and in Europe. While it would not be fair to give entire credit to any one person, Froebel, Stevenson and Groos deserve special mention in starting the movement. Gulick, Johnson, Lee, Curtis, Wood and Williams are among the outstanding American physical education leaders who have made notable application of the play tendency in the organization of our more recent physical education programs.

The prominence given to play on these programs is based first

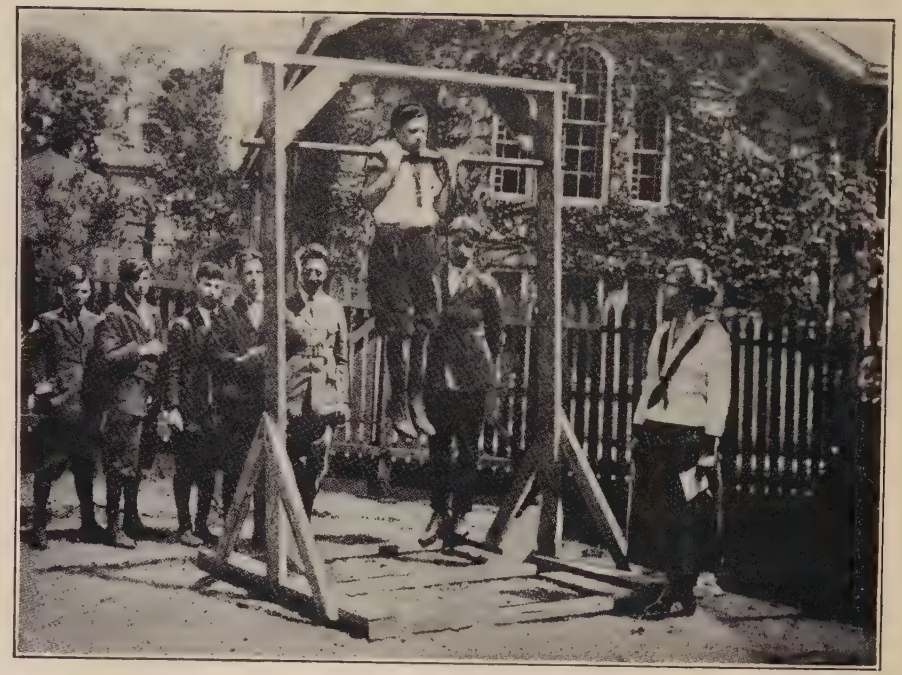
*Williams, Jesse F. "The Organization and Administration of Physical Education." Used by permission of The Macmillan Company, New York.

on the fact that play is one of the strongest instinctive tendencies among normal children. Second, that to the child play is serious, and therefore of supreme educational importance. Third, that play means activity and activity means growth—co-ordination of the mind and body, grace and ease of movement, relaxation, joy, glowing aliveness. Fourth, that the child develops co-operation, fair play, democracy, helpfulness, sympathy, and leadership through play with his fellows. Fifth, that the artificial and repressive atmosphere of the average classroom does not give the teacher a chance to reach the whole child while his play life does give this opportunity.

Happily the idea of "playing to a purpose" * is becoming popular even in classroom procedure, where the ultimate practicability of the use of the play life of the child for educational purposes has been thoroughly tested. An opportunity to play is the birthright of every child. Joseph Lee once made the statement that "the boy without a playground is father to a man without a job," but later amended the statement to "the boy without a playground *is* the man without a job." † A safe place in which to play is also the birthright of every child, either rural or urban bred. Civic playgrounds are excellent but every school should have play space in connection with the school plant. In city systems where play space is at a premium, roofs should be arranged for outdoor play. In rural communities a three acre playground is accepted as a minimum requirement by the Joint Committee on Health Problems in Education of the National Education Association and American Medical Association. This report states further that "a playground is not a luxury, but a necessity."

The equipment for this necessary playground may be high grade machine-made apparatus or it may be cruder models of the most essential equipment made by the teachers and older pupils. Suggestions for small children would include sand pile, see saws and swings, to be placed on a quiet part of the playground: for boys, acting bars, jumping pit, base ball diamond, foot ball field, tennis and volley ball courts: for girls, basket ball court (*if the game is played by girls' rules and carefully supervised*) volley ball

*H. Caldwell Cook, "The Play Way" Fred. A. Stokes, New York.
† Lee, Joseph, "Play in Education" Macmillan Company.



PORTABLE, ADJUSTABLE CHINNING BAR FOR PLAYGROUND. MANUAL TRAINING CORRELATION PROBLEM.

Courtesy of New York State Department of Education

court, tennis court, tether ball, indoor baseball, field hockey and archery outfit. Additional safe outdoor activities for girls are walking, swimming, rowing, paddling, shooting, coasting, skiing, snowshoeing, ball throwing, running and low hurdles (not in competition) horseback riding, golf, dancing.* Dancing is more generally preferred by girls themselves than any other form of activity.

Space and equipment are not all sufficient. Recent recreational surveys show that if children are to have healthful and normal play activities, two things are necessary, first, opportunity, and second, leadership.† It is not within the scope of this book to discuss the merits of free and supervised play in detail, but it should be remembered that free and undirected play with its wonderful opportunities for self-development, often degenerates into idleness, fighting, teasing or serious breaking of the moral code. On the other hand, wise supervision means leadership for the many types of physical activity that will lead to the development of the best attributes known to man.

In city systems, the division of recreational activities is usually under the direction of specialists, who have a capable staff of workers; however, the great variety of activities and the large number of children make the co-operation of the class teacher a necessity. In small towns or rural communities, the entire duty of the supervision of the recreation of the pupils, and often the recreation of the community itself, depends on her.

Some teachers feel that it is beneath their dignity to play, others that play with their pupils would interfere with their discipline. Both ideas are far from the truth. The teacher needs the play as much as the children. Any dignity that will be injured by wholesome play needs to be dislodged from the school program, and any discipline that would suffer from participation by the teacher in playground activities is all wrong. Understanding, sympathy, wholesome friendship, and better discipline are the net results for the teacher who knows how to play and who plays with her pupils.

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* Williams, Jesse F. Physical Education. The Macmillan Co., New York.

† Ayres, Williams and Wood, "Healthful Schools," Houghton Mifflin Co., Boston.

The American school of physical training. While America cannot claim an original school of physical training, yet she can claim a fine system, which is partly an outgrowth of carefully selected material and method from the best of the European schools and partly an outgrowth of the practical application of material to the interest and needs in the various age groups. In this way, physical training in America has become a highly specialized science—a science from which educational, hygienic, and recreational benefits result.

The generally accepted objectives of physical training in America are as follows:

1. To improve the general health.
2. To obtain good posture.
3. To make pupils alert, accurate, vigorous, able to endure.
4. To cultivate a spirit of fair play.
5. To develop initiative and leadership.
6. To teach a love of outdoor recreation.

With these definite aims in view it is not surprising that physical training is no longer considered a detached problem unrelated to the other aspects of education, but is accepted as an integral part of the daily school program.

The great interest in physical education in America is shown by the many excellent courses for the training of physical education teachers now offered by special schools of physical training and by strong departments of physical training in all our more progressive normal colleges and universities, both during their winter and summer sessions. Anatomy, physiology, kinesiology, histology, and many other closely allied health subjects such as first aid, home nursing, personal hygiene and public health, child welfare and child psychology as well as the varied forms of physical activities and their supervision are among the courses listed.

A unique feature of the development of the physical training movement in this country has been the widespread acceptance of it by schools for girls and women. Radcliffe had a gymnasium before it had a dormitory. Today a well organized physical training department is considered a necessary part of all of our better schools and colleges for girls and young women.

All the more progressive elementary schools, high schools, col-

leges and universities in America emphasize their physical education departments. Unfortunately, however, the normal physical development of the entire student body has often been neglected in the past because of our great national interest in a few games. This has over-emphasized the importance of a "good team," and has thereby handicapped the true aim of physical training, not only by neglecting the development of activities for the larger part of the student body, but also by the frequent over-development of the members of the different teams. But with more trained teachers, and the recognition of physical training as a required and accredited part of our curricula, our amateur sport is gradually getting away from its tendency to stress the winning of the team or the star contestant to more perfect performance of various kinds of activities suited to different types of students.

The division of physical training activities. Today there are three distinct divisions of physical training activities, each having its own definite aim in view. These, in order of their development are (1) the gymnastic lesson, including formal and informal gymnastics, folk dancing, mimetic exercises (for primary grades), used chiefly to correct defects and to cultivate good posture, skill and technique, (2) recreational activities, including all types of play, athletic games and sports, and certain club activities, as Boy and Girl Scouts, Camp Fire Girls, etc.; and (3) the relief drill, a two or three minute period of exercise, formal or informal, used between class periods.

Place for physical training. The ideal place for all physical activities is outdoors, but lack of space, bad weather, and limited time make it necessary for many of these activities to be carried on indoors either in the gymnasium or class-room with all windows open. When the latter is used movable desks and seats are a great advantage. However it should be remembered that where the fixed school unit is still in vogue and time is at a premium, mimetic marching, running, skipping, various types of relays, and many games can be used. That these "relief drills" inserted as a part of the formal class-room procedure are great child savers, there is no doubt; but it is hoped that the old "lock-step" school system will soon be supplanted by the new plan of individual

instruction where each child is "free to learn" in a normal socialized group without the need for "relief."

Time for physical training activities. The time for physical activities varies in different systems, but the minimum is fifteen minutes daily. Where directed recreation and gymnastic lessons are added, recreational activities usually require forty minutes daily; twenty minutes of this may be credited to walking to and from school. A gymnastic requirement of sixty minutes is sometimes divided into three periods of twenty minutes, four periods of fifteen minutes, or two periods of thirty minutes. Georgia has an excellent law that requires periods totaling not less than thirty minutes each school day, which shall be devoted to instruction in health and safety, to physical exercise and to supervised play at recess. This or similar requirements may be divided as follows:

I. Morning inspection (9 minutes).

About three minutes of this time is given over to inspection for personal habits of cleanliness and neatness. For this inspection, the children sit, feet in aisle, facing windows. Inspectors look for clean face, neck, and ears; clean teeth; clean hands; short, clean fingernails; clean well-brushed heads; neat clean clothes including well brushed shoes. While pupil monitors may assist, it is wise in most instances, particularly with very young children, for the teacher to do the personal inspection. This is an excellent opportunity for her to note symptoms of disease warranting exclusion from school,* and also to note the presence of the following skin diseases that would need immediate attention: pediculosis (head lice), scabies (itch), and tenia circinata (ring worm). The rest of the time may be spent in various ways—joyous singing games, vigorous drills, inspirational talk or story, club work, and other forms of health work that will put the group in an achieving frame of mind. For methods to use in the formation of the personal health habits see outline for the grades.

II. Three, two-minute drills (6 minutes).

Two minute drills should be given between every class period, but this minimum requirement only gives time for three.

*See Chapter V. (Communicable Diseases).

These, however, should be given between concentrated study or class periods, not at dismissal of pupils for play.

III. Supervised outdoor play (15 minutes).

This period of supervised play may be given during recess or after school. It may consist of any well chosen game that takes in the entire group. If several grades are present on the playground, the supervision may be shared by the teacher with several play leaders, chosen for their special fitness. These play leaders should be given special training to help with certain groups in games or athletic sports.

Training of the class teacher for physical training activities. If the class teacher has not had previous training she should take advantage of the courses offered at some accessible summer school. However, if this is impossible, careful home study will add many practical suggestions for the physical activity of her group. It is always wise for the untrained teacher to choose a few of the simpler forms of games, dances, and exercises, and by study and practice familiarize herself thoroughly with them before attempting to use them in class.

Content or subject matter. In selecting material for class work in physical training the following points should be considered; first, does the subject matter function in life; second, is there a worthy purpose behind it; third, is it enjoyed by the class; and fourth, is it hygienic? The work throughout the grades should be closely related to the lives and experience of the children. Especial emphasis should be placed on the connection of subject matter with the other school work. If the children are studying Indian life, Indian dances will interest them, if Greek life, Greek games will appeal to them.

In working up special programs or celebrations it is well to remember that development should come from within not without. The child is an individual but he is also a part of a great social unit. For these reasons festivals are much better than public exhibitions.

Other methods for encouragement of interest in physical education activities. Tests, contests, prizes, awards, organizations, (athletic associations and recreational clubs as Boy Scouts

and Girl Scouts) will help to arouse interest in various forms of activity. Every boy and girl should be stimulated to achieve success in some form of activity adapted to his or her ability. The director should always work for joyous and spontaneous activity, for enthusiastic and prompt leadership, and a spirit of fairness, loyalty, and cheerful self-control both in winning and losing.

Booklets on standard Athletic Badge Test for Boys and Athletic Badge Test for Girls may be purchased at five cents each, from the Playground and Recreation Association of America, 315 Fourth Ave., New York, N. Y. The bronze badges for winners of these contests are furnished at fifteen cents each by the same organization. Athletic meets conducted by experienced teachers are effective. Rules for games, track and field sports to be used in these may be secured from A. G. Spalding & Bros., 19 Beekman St., New York City. The reader will find Williams,' "Physical Education," published by the Macmillan Company a comprehensive guide for detailed discussion of the accepted forms of physical education activities. Other references at the end of this chapter will also be found valuable for wider study of physical education and in the development of courses of study.

The relief drill. A recent addition to physical training activities is the relief drill of two or three minutes' duration given between class periods. The chief aims of these drills are to give orderly physical and mental relaxation and to increase respiration and circulation. They also increase efficiency in academic work, improve discipline, and decrease fatigue. They have been developed as a result of scientific investigations which show that the maximum continuous study period for the primary grades should be 20 minutes, for intermediate grades 30 minutes, for high school 45 minutes, for college classes one hour. After this time limit for each group continued concentration is a drain. Therefore the formal school program should have a drill at the beginning of each class period unless the period is one of physical exercise. Coats and sweaters should be removed and windows opened during each drill. This can be attended to by pupil monitors.

There are two distinct types of drill; the active drill and the passive drill. The first is primarily motor, as a brisk game, dance,

or gymnastic exercise; the latter is a quiet or relaxing drill as taking a nap on the desk.

Dramatic games, mimetic exercises, story plays, and rhythmic games make excellent two minute drills for the primary grades. Select one or two each period that will bring as many of the large muscles into play as possible. Simple marching, running, and skipping either with or without music are also effective.

Dramatic Games, Story Plays. The field of dramatic games and story plays is limitless in variety. Some of the most popular are "Tall Pine Trees," "Picking Apples," "Train," "Indians," "Raking Leaves," "Shoemaker and Elves," "Snowball."

Going To The Woods*

1. Skip to the woods. Stand. Reach for the hats—one! two! Put them on. Ready—go! One row skips around the room to seats. Skip lightly on the toes. Swing the arms as you go.

2. Blowing the milkweed. Pick the milkweed. Breathe in! Breathe out! Blow high up in the air. Again—one! two! See how long you can keep the seeds in the air.

3. Shaking nuts from the trees. Spring lightly upward for the branches. Shake! Pull the branches down. Shake! Raise the arms and let the branches go up, but still hold on. Again—one! two! Shake hard and fast—go! stop!

4. Picking up nuts. Down! Stoop down. Up! Stretch knees and put nuts in the basket. Again—one! two! See who can get his basket full first—go! stop!

5. Throwing nuts to squirrels. One! Hand in basket. Two! Away over to the oak trees, with overhand throw. Again —one! two!

6. Jump over the brook and run home. Draw two chalk lines at the front of the room to represent a brook. The first row runs forward, jumps over the brook and runs to seats, followed by the second row. The teacher should stand in front of the children as they jump.

7. Glad to get home. Breathe—in! Breathe—out! Again —one! two!

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*Clark, Lydia, "Physical Training for the Elementary Schools." Courtesy of Benj. H. Sanborn Co., publishers, Chicago, New York and Boston.

The Scarecrow That Came To Life*

Tell the children stories from "The Land of Oz" (by Frank Baum, published by Reilly and Britton, Chicago), and they will be ready with many suggestions for story plays.

1. Scarecrows. Stand! Place feet apart, arms raised to shoulder level, hands drooping and hanging limp in the air. The eyes are closed.

2. Right eye blinks. One! Open right eye wide, two! Close. One! This time keep it open. Now left—One! Two! and—Open!

3. Sleepyhead. One! Head bends over to the right. Two! Up to position. Over to the left—One! Two! Again—One! Two! Three! Four!

4. Arms come to life. One! Right arm falls to side. Two! Arm is raised stiffly to shoulder level. Three! Sinks to the side. Left arm comes to life—One! Left falls to the side. Two! Left arm is raised to shoulder level. Three! Sinks down to side.

5. Trunk bends. Over! Bend the trunk forward (45 degrees). Keep the back flat and the knees straight. Up! Raise trunk. Again—One! Two!

6. Legs come to life. One! Bend the right knee slowly upward (right angle to hip and knee). Two! Slowly replace the foot on the floor. Again—One! Two! This time the knee bends more quickly. Try left leg—one! Slowly this time. Two! Again—One! Two!

7. Marching. Ready—go! One row after the other marches around the room and down to seats. Very stiff and straight. Pull the knees up high.

Singing Games. The list of singing games is a long one. Among the greatest favorites are "Mulberry Bush," "London Bridge," "Looby Loo," "The Muffin Man," "Oats, Peas, Beans," "Snail," "Let the Feet Go Tramp."

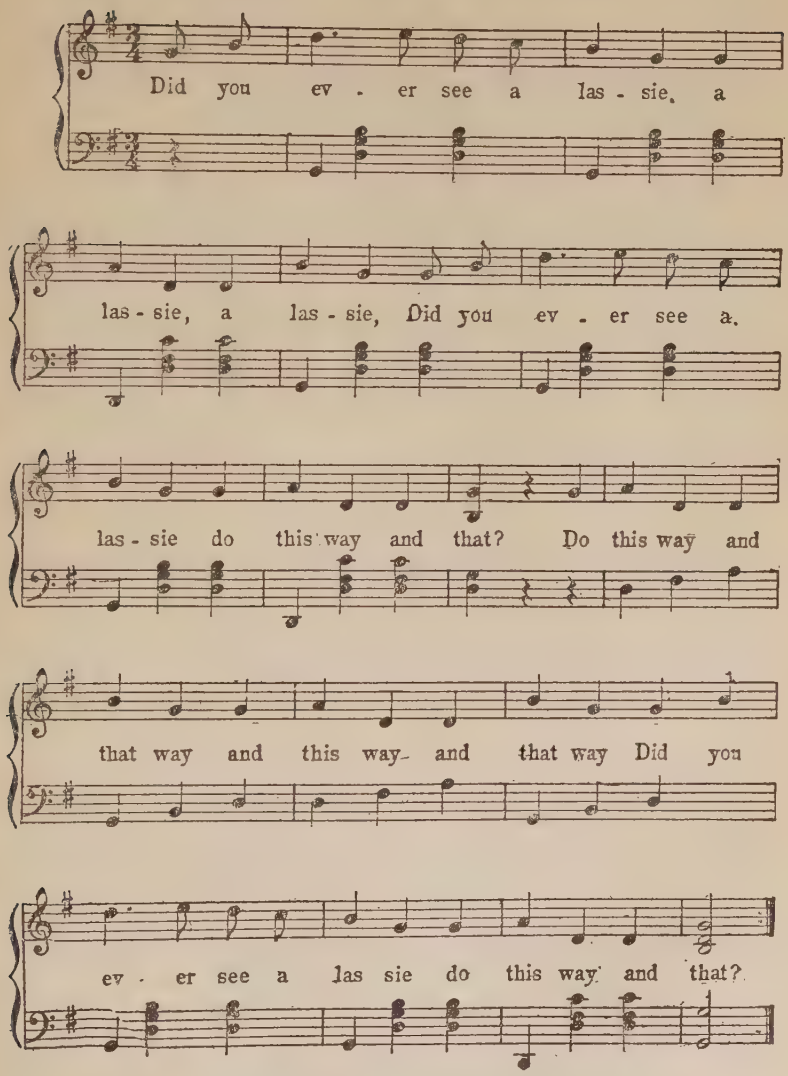
Did You Ever See a Lassie? †

This is a game for very young children. It may be played in circle formation with the odd one, the leader, in the center or the

Ibid.

† Bancroft, Jessie. "Games for the Playground, Home, School, and Gymnasium." Used by permission of The Macmillan Co., p. 262.

Did You Ever See A Lassie?


Did you ev - er see a las - sie, a
las - sie, a las - sie, Did you ev - er see a.
las - sie do this way and that? Do this way and
that way and this way and that way Did you
ev - er see a las sie do this way and that?

children may stand in the aisles with an odd one, the leader, before them. If circle formation is used, the children clasp hands and circle around the leader singing. While the leader stands in center and illustrates some motion he wishes, the other children imitate. During the last two lines of verse the children stand still and follow the movements of the leader, the word "lassie" changed to "laddie." The leader may imitate any activity he wishes.

Did you ever see a lassie, a lassie, a lassie,
Did you ever see a lassie do this way and that?
Do this way and that way, and this way and that way:
Did you ever see a lassie do this way and that?

Rhythmic Plays. Rhythmic work is an important factor in the physical training of all grades but particularly the lower grades. Story-play and singing games may be used to develop the sense of rhythm, but it is well to add some of the many delightful folk dances. A piano or victrola will add materially to its enjoyment or the teacher and a few pupils may clap hands and sing while the rest of the group dance.

The Chimes of Dunkirk*

Formation. A double circle around the room, partners facing each other, hands on hips.

I. Measures 1–2 Tap feet three times: right, left, right.

Measures 3–4 Clap hands three times.

Measures 5–6 Partners take hands and turn each other around with short running steps on toes.

Measures 1–8 Repeat from beginning.

II. Measures 9–16 Partners join inside hands face forward and run around the circle with sixteen short running steps. If desired, partners may be changed by having the players on the inside step forward on the last measure.

Recreational activity. There are two main divisions in playground activities, one is made up of group games, the other of athletics. Fun and frolic and fair play should be the chief aims of the teacher.

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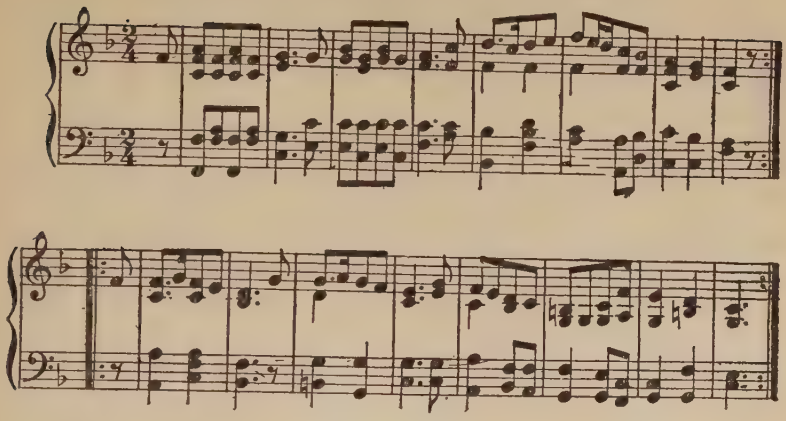
*Clark, Lydia. "Physical Training for Elementary Schools." Benj. H. Sanborn and Company. pp. 63–4.

The Chimes Of Dunkirk



Squirrel in Trees

(A favorite with young children)

Players stand in groups of three or four, two or three with hands on each other's shoulder form hollow tree, the third or fourth (according to the number used) representing a squirrel stands inside the hollow tree. There is one squirrel in the center of the circle of trees. When the teacher claps her hands or blows whistle, the object is for the squirrels to change trees, the odd one trying to secure a tree.

Three Deep

(A favorite with both children and adults)

Double circle facing in with one player directly behind another. One of the simplest methods of getting players into this formation is to have players pair off in couples—one partner behind his mate facing center of circle, leaving one odd couple. Of the odd couple one is runner, "it," and the other chaser. The object of the game is for the chaser to tag the runner. The one who is chased may stop in front of any couple, whereupon, that file having been made three deep, the outer player or third becomes "it." Should the chaser tag the runner they exchange places.

Relay Races

There are many different forms of relay. All-up Relay, Circle Relay, Double Relay, Shuttle Relay, Single Relay, Potato and Sack Races, but the form of all is the same.

Single Relay

Divide group into equal numbers. Choose a goal for each team, to or around which each player on the team must run. Goal may be wall, fence or small object. A line is drawn equally distant from the goals. Each team lines up in single file behind the starting line about five feet from each other. The first player of each team toes the starting line and at a signal runs forward to goal, touches it or runs around it as case may be. He then runs back to the line, touches the outstretched hand of the next player, behind him, who is then toeing the line. This player then runs forward, while preceding runner goes to foot of his line. The team wins whose last runner is first to cross the starting line on his return, if there are no fouls. Fouls are given if a player steps over the line or reaches over the line before he is tagged.

Athletic Games and Sports. Team play is one of the highest forms of play. The team spirit begins to develop about the tenth year, but does not reach its peak until some years later. It develops co-operation and if the teams are taught to play hard and fair, team games are of greatest value. Some of the most popular athletic team games are base ball, foot ball, basket ball, volley ball, dodge ball.

Volley Ball

This makes an excellent game because a large number may play and also because of its helpful effects on posture. Head and body are held up and all movement is upward and forward. The game consists in keeping a large ball in motion back and forth across a high net. A tennis or volley ball net or woven wire is stretched across center of a 25 by 50 foot court. The top of the net should be 6½ or 7 feet from the ground.

Any number of players up to thirty may play. The players are divided into two equal teams and scatter over their respective courts. Each team has a captain. An umpire is needed. The ob-

ject of the game is to bat the ball upward with open hand over the net into the opponent's court. The ball is put into play by being served by a member of one side, standing with his forward foot on the rear line of his court. Each server has two trials at serving. The ball, if it goes over the net without touching it, must be batted back by opponents. Any number of players may strike the ball after it has been sent ten feet by the server, but no player may strike the ball more than twice in succession though he may resume playing after some other player has struck it. A server continues to serve as long as his side wins. The score is made entirely by opponents' fouls and failures. Each foul or failure counts one point—with the exception of fouls, only the serving side scores. A successful serve unreturned or batted out of bounds by opponents counts one point. If serving side fails to return ball, the serve passes to other team. One point is scored by opponents whenever a player catches or holds ball. If a player touches the net the ball is put out of play. Should this player be on the serving side, his side loses the ball; should he be on the receiving side, the serving side scores a point. Should players from both sides touch net simultaneously the ball is out of play and the serving side serves again. The game is twenty-one points.

Topics for Discussion and Problems for Construction

1. What part has Physical Education played in the civilizations of ancient, medieval, and modern peoples?
   Reference, Leonard and McKenzie. "A Guide to the History of Physical Education."
2. Discuss the outstanding characteristics and results of the Greek, Roman, French, Swedish, and German schools of physical training.
   Reference, 1. McKenzie, as above. 2. Williams, "The Organization and Administration of Physical Education." 3. Lee, "Play and Education."
3. Make a summary of the argument for and against omitting all formal gymnastics from the school program. What is the class decision?
4. Discuss the values of rhythmic training.
   Reference: Lee, "Play in Education." Chap. XX–XXI.

Williams, "The Organization and Administration of Physical Education."

5. Develop a blackboard lesson on the values of play.
6. Have each student make a list of games telling why each was chosen.
7. Have one group of students make a model playground, another a model athletic field as sand table problems.
8. What play apparatus can be made by children? Draw plans and figure cost. Compare with catalogue prices.
9. Who should be responsible for playground administration?
10. Make a survey of the play facilities of some convenient city, village, and rural school.
11. How can the school be made a "Community Center?"
12. Why and how should the play spirit be introduced into the regular school program?
13. Outline a course of study in physical training for (1) the primary grades, (2) the grammar grades, (3) the junior high school, (4) the senior high school.
    References, Bancroft, Clark, Williams.
14. What tests, contests, prizes, awards, and organizations will help arouse interest in the physical training program?

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Lee, Joseph. "Play in Education," The Macmillan Company, New York, 1916. $1.80.

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CHAPTER VII

SAFETY EDUCATION

"To the nation, accidents mean loss of man-power, a decrease in production, a lowering of standards of living, and an increase of poverty and of the demands for philanthropic aid from families of killed or severely injured men."—OREGON COURSE OF STUDY FOR SAFETY EDUCATION.

"It is the duty of health workers and all thoughtful people to prevent and to save human life from all preventable causes. It is just as important to save a child from having its life crushed out under an automobile as to prevent it from dying of broncho-pneumonia following whooping cough, which cause could have been prevented. An infant's life is as surely lost if scalded to death by the overturning of a pot of hot coffee, as if it dies after a lingering illness from diarrhea, the germs of which were carried to its milk bottle by flies from an unprotected outhouse."—VIRGINIA HEALTH BULLETIN.

The need of safety education. An explanation of safety education is unnecessary but the following facts should be a stimulus to educators who have not given the movement their earnest support. For our nineteen months' participation in the World War, 300,000 American soldiers were killed or wounded, or died of disease. During that same period of time 3,000,000 persons were killed or injured by accidents in the United States. In 1917 alone, 20,111 children under fifteen years of age were accidentally killed.* In the past twenty-eight years 37,714 boys and girls under eighteen have been crippled while walking on railroad tracks or flipping trains. During the past ten years 84,000 people have been killed or injured while walking (trespassing) on railroad tracks and bridges or while unlawfully riding on freight and passenger trains. Deaths caused by automobiles and other motor vehicles except motor cycles showed an increase in fifty-eight of our larger cities in 1924. The figures announced by the Federal Department of Commerce showed a total of 5,030 deaths and a fatality of 19 per 100,000 population. Our annual fire cost includes 15,000 lives

*Course of Study for Safety Education in Oregon Schools, used through courtesy of Oregon Department of Education.

lost, 21,000 seriously injured persons and $521,000,000 property loss. For disasters caused by poor construction one has but to recall the collapsed theatre in Washington, the Iroquois fire in Chicago, etc.

With hazards increasing from the service of gas and electricity, the use of such dangerous articles as matches, volatile oils, poisons, automobiles and the like, our nation-wide Safety First movement comes as another expression of a national conscience awakened to the need of the conservation of human life and happiness. It seeks to prevent the appalling, unnecessary loss of life by promoting habits of carefulness and caution. Happily the movement is constantly finding a broader field of expression. Industrial establishments, schools, and the press are all encouraging the work. For example, employees in factories and children in an increasing number of schools are being taught fire drills, first aid, and general methods for meeting hazards.

The best place for safety instruction and training. It is important that the subject of safety should be presented to adults, but to achieve the best results it should have a regular place on the school program. This gives the child an opportunity to acquire habits of order, carefulness, and respect for law during his plastic school days. Therefore, safety education like health education is primarily a school problem.

The National Bureau of Standards gives an excellent basis for education in safety when it says "Sound psychology suggests a proper action and not merely inaction." What to do should be taught as well as what not to do. There should be stimulation to actions which insure safety as well as control against actions which involve risk, as the former promotes safe conduct, while the latter induces fear. This means that children must be taught to recognize accident situations, and to react immediately to the stimulus of safety for themselves and for others. This training should strive to make automatic such responses to accident situations as picking up banana peels, glass and rusty nails and should give such knowledge as how to turn in a fire alarm or report a live wire. From this type of training the young citizen will develop constant vigilance for himself and for others on the street, at home, at school, and in years to come in business. In this way safety education

proves another means for developing a social consciousness, a thought to "do unto others as ye would have others do unto you."

The correlation of safety education and health education. Avoidable accidents are second only to preventable diseases in wastage of life. The causes of both accidents and diseases are invariably the same, namely: *Carelessness, Indifference, Ignorance.* Therefore, it is economical to blend safety education and health education into one big program for human conservation. Great industries have already increased their efficiency by grouping safety, sanitation and welfare work under one department with an efficiency engineer as manager. Progressive schools are beginning to follow their practical lead in unifying safety and health.

Safety education is closely correlated with health education in each grade, in the outlines given in Book II. The foundation for the "Safety First" training is laid in the first grade with the teaching of orderliness. This is introduced by the story "The Visit of Fairy Careless and Fairy Careful" and by discussion of accident situations in the child's home and school life. In the second grade fixing the belief in and practice of "Safety First" as part of the training of all good Americans is done by review of "Fairy Careless and Fairy Careful," "The Story of the Three Giants" and by Waldo's "Safety First for Little Folks." The central correlation for the third grade course of study in health is safety education. In this grade the children are trained to feel their responsibility for the younger children of the first and second grade. Beginning with the fourth grade, the health clubs of each grade are expected to have "Safety First Committees," whose business it is to keep up the spirit of "Safe America" by weekly reports on activities of club membership, current events, and by special programs and posters. In connection with the course of study in health for each grade safety ideals are inserted at every available point. All grades participate in regular fire drills, take part in "National Fire Prevention Week" in October, and join in celebrating "National Accident Prevention Week" in the spring.

In addition to the safety projects which are incorporated in the outline for each of the grades, the following devices are suggested as a means of vitalizing safety education:

Dramatization

Traffic court staged by children, personnel of court scene is composed of the judge, prosecuting attorney, police, offenders, witnesses. Imaginary accidents may be staged and varied in place and seriousness of accident. Let children evolve the idea. First aid administered to imaginary victims of the accidents, etc.

Safety First Playlets and Pantomimes

Massachusetts Safety Council, 6 Beacon St., Boston. "Childhood Hour," a pantomime in two scenes.

Accident Stories

"Safety First for Little Folks," Waldo.

"Sure Pop and The Safety Scouts," Baily.

"Fairy Careful and Fairy Careless," Health Training in Schools.

"The Three Giants." "New Jersey Course of Study in Hygiene."

Imaginary stories told by teacher and children.

Motion Pictures on Safety

"The A B C of Safety:"*

"Ask Daddy:"

May be rented from National Safety Council, 168 North Michigan Ave., Chicago. Write for terms and complete list of safety films.

Reports from daily press keep children in touch with conditions at hand and do much to keep up their enthusiasm.

Safety Clubs or Committees, Junior Safety Council

The Junior Health and Safety Council has proven a great success in city schools. This type of organization has already been tried out; the practical co-operation they have given to adults' councils has been splendid and shows that children are the best of all safety workers.

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*Produced by National Safety Council—Deals with home and street safety.

Safety posters, booklets, and signs make interesting work and are most effective for teaching the public as well as the child.

Fire Drills

Weekly fire drills should be a part of every school program.

Safety Themes

Safety themes call for thoughtful consideration on the "Safety First" slogan and will vitalize the English work. Some suggestive topics are offered below.

Accident Prevention at Home.
Accident Prevention at School.
Accident Prevention on the Street.
Accident Prevention in the Factory.
Accident Prevention and Public Utilities.
Accident Prevention on the Farm.
How to Motor with Safety.
The Employer and Safety.
The Relation of Eye and Ear Defects to Accidents.
Chronic or Acute Illnesses and Their Relation to Accidents.
Safety in Building Construction.
Safety Conduct in Public Buildings.
Fire Prevention.
Civic Fire Protection.
Forest Fire Protection.
Organizations in Safety Work.
How to make Safety Week a Success.
The Duties of a Safety Engineer.
Safety Devices.

Safety Mottoes

"Safety First Means a Thought for Others First."
"I am my Brother's Keeper."
"Do Unto Others as you Would Have Them Do Unto You."
"Safety is Efficiency."

"Cuts and Bruises of the Flesh
Must be treated when they are fresh,
If you wait another day
Poison may cause loss of pay."

"Turn the nails down or pull them out."
"Be safe, not sorry."
"It does not pay to take a chance."
"Recklessness never pays."
"Be kind to your feet; go well shod."
"Think what you are doing."
"Watch where you are going."
"Listen, while you wait."
"Don't meddle."
"Look, where you are driving."
"Careless America, Wake Up!"

Marcus A. Dow, General Safety Agent, New York Central Line, adds the following:

"The best safety device known is a careful man."
"It is better to take care than to take chance."
"It is cheaper to keep well than to get well."
"Working for safety is the highest form of service."
"Seeds of carelessness yield weeds of regret."

Causes of Accidents

"1. Human element: carelessness, thoughtlessness, indifference, ignorance.

"2. Uncorrected accident situations: unguarded crossings, machinery, etc."

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State Syllabi

California, Massachusetts, New Jersey, New York, Oregon, Pennsylvania.

City Syllabi

Chicago, Cleveland, Detroit, Trenton, St. Louis.

CHAPTER VIII

THE PARENTS' PART IN HEALTH EDUCATION

"It is the rare mother who does not do the best she can for her child. Therefore it should be the aim and ideal of physicians and teachers to increase her capabilities."—Dr. Josephine Hemenway Kenyon.

The need for parental co-operation in health education. The solving of health problems is and will always be a matter of behavior—the breaking up of an unhygienic behavior, the building up of an hygienic behavior. This must necessarily begin with an intimate, personal readjustment. If the health idea or ideal is started in school it extends first to the family group where the family reaction will depend entirely upon its education in such matters. A thoughtful teacher understands the basic need of parental co-operation and will visit her patrons and exert every energy in expression of her friendly interest. Sometimes she will meet the educated mother who will gladly welcome her co-operation in the encouragement of her own pet health habits. Again she may find the other type mother who may write: "Dere Teacher, we'uns is sendin' Jim ter school fer yer ter larn him to read and figur', not play, and I 'low he is clean nouf'.

There was never an apter place for the quotation, "United we stand, divided we fall" than in school health problems—for the maximum efficiency of the school health program depends upon the maximum unity of the parents, of the teachers, and of the children. The parent-teacher association or mothers club with its already organized, successfully tested programs, is the quickest solution. If there is one, a wise teacher will do all in her power to keep it alive. If there is not an organization of this type, she will get material from the reference list at the end of the chapter and organize some type of community co-operation wherein some leader among her patrons will be made official chairman. The skilful teacher will always try to remember that the organization is a parent-teacher organization, not a teacher-parent organization, and will do all in her power to get every parent she can to take part in the meetings or in the activities sponsored by the association.

How the Parent-Teacher Association may foster the school health program. The parent-teacher association may have a standing health committee which should give a definite report at every meeting of the organization. During the school year it may also have several programs given over entirely to the health needs of the school. These programs should be carefully planned to present definite problems, to suggest methods for meeting them, and to get concerted action for solving the problem. Some suggestions for health programs with definite results to be achieved are given below:

Topic	Results
School health equipment.	Pure drinking water, sanitary drinking fountains or cooler and paper drinking cups; water for washing, paper towels; scales, individual weight and class weight records; tape measures, Snellen vision test card, first aid materials in cabinet or complete first aid kit.
The hot school lunch.	Equipment and materials.
School health supervision.	Medical inspector, full time nurse, parental co-operation in correction of all cases of remedial defects and diseases and in quarantine of all contagious diseases.
Malnutrition; symptoms, causes, prevention and cure.	Free milk for all under-weight children, more hygienic home schedules.
Play in education.	Needed playground space and equipment.
Health of the pre-school child.	Medical examination for defects and diseases. Improved hygiene, more sunshine, fresh air, sleep, better feeding, etc. Better training.

The parent's responsibility for the health of the child. Everyone will agree that the parent is ultimately responsible for the health of the child. From a sociological point of view, no teacher, organization or law should attempt to lift this responsibility entirely from the parent except to meet an emergency need.

There are enough conditions already at work to undermine the old time home with its strong family ties and responsibilities. Many true benefactors of society are realizing this and are doing everything in their power to awaken, stimulate, and educate parents to meet their responsibilities in this direction. Happily, many parents themselves are among this group of workers.

The parent-teacher associations, mothers clubs, womens clubs and pre-school study circles, various national health organizations, women's magazines, educational magazines, the daily press, federal and state departments are doing their part in forwarding the education of the masses. Some colleges and universities and even a few high schools are offering special courses in parenthood.

A Query to Parents*

1. Have you a health program in your home?
2. Are you teaching your children good health habits?
3. Are you practicing what you teach?
4. What does the school health program mean to you?
5. Does it mean anything?
6. Do you ever visit your school?
7. Do you know the condition of the building as to sanitation and equipment?
8. Do you know the district superintendent, teacher, school doctor and nurse (if you have one)?
9. Did you have anything to do with the selection of your teacher or doctor?
10. Did you hire the best one or the cheapest?
11. Did you ever see a school medical examination?

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* The following questions were devised by Florence A. Sherman, M.D., Assistant State Medical Inspector of Schools, New York State Department of Education for the Child Health Magazine, April 1924, and is used through courtesy of author.

12. Do you respond promptly to the notification of physical defect found?
13. Do you serve a hot luncheon in your schools at noon?
14. Do you provide the right sort of luncheon for your child to take to school?
15. Do you include a bottle of milk? *
16. Are you giving your children as careful attention as you are your livestock?

Practical Feeding Rules for Mothers †

According to Dr. Douglas A. Thom, writing in Hygeia† May 1925, every mother may ask herself certain questions calculated to reveal her possible mistakes. The questions with corrective hints are as follows:

"1. Do you fret about what your child eats and whether he is getting enough? If so, very likely at every meal-time you make him the star actor in a little drama, and every child likes to be the center of attention.

"2. Do you talk about his eating habits to other persons in his presence? If so, any child would feel important and want to keep up being different.

"3. Do you insist on feeding him after he is old enough to feed himself, just because it is easier to than to teach him? Better let him spill a little until he learns, than to become dependent and fretful.

"4. Is some one else in the family very particular about his foods? Of course, a child likes to imitate older persons.

"5. Do you choose plain, nourishing, easily digested foods and cook them well?

"6. Do you let your child taste everything that grown persons have? A child used to having tea, coffee, and highly seasoned foods and too many sweets has lost a healthy appetite.

"7. Do you serve food as attractively as you can and not in too large quantities?

"8. Do you feed your child regularly? A child can not go too long without food but eating between meals means that his little stomach is overworked.

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* Note:—Would amend this to pasteurized milk or "clean milk from tuberculin tested cows."

† Used through courtesy of Hygeia.

"9. Do you find that he sleeps poorly, is irritable, has violent tempers or strange fears? If so, not only his eating but his other habits are probably disarranged.

"10. Do you know that a child who is angry, fearful or worried can not digest food properly? Overcome the emotion first and then let him eat.

"11. Do you create an unpleasant scene in an effort to make him eat?

"12. Do you create jealousy by denying to one child what another has? The child who is refused what the other children have should know why.

"13. Do you try to show your authority by making a child eat anything just because you say so? It is better to show that you are reasonable and expect him to be; that you consult his preferences when you can, but if a food is needed for health, he must try to learn to like it.

"14. Do you suggest to the child your own doubt as to whether he is going to eat? A child is quick to refuse if he senses that you expect him to, and as quick to eat what is offered without question.

"15. Are you so afraid of your child's missing a meal that when he refuses what you give him, you provide something else? Missing a meal will not hurt him. Leave the food twenty or thirty minutes and then take it away and give nothing else until the next meal."

Whose Fault Is It?*

The following questions prepared for the use of mothers should also be of use to the teacher who believes that the Crusade system of marking chore records fosters untruthfulness in the child.

Is My Child Untruthful? Why? †

Do I know the difference between imagination and untruthfulness in a child?

Do I accuse him of untruth without thorough investigation?

Is he untruthful because he is afraid of punishment?

Do I say before him that I cannot believe a word he says?

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* From Bulletin National Tuberculosis Association, April 1924.

† Reprinted from the Child Welfare Magazine.

Do I allow his inaccurate statement about anything, even trivial matters, to pass unchallenged?

Do I always speak the truth myself?

Am I careless about keeping my promises to him?

Prepared by

MARGARET J. STANNARD
EMILIE POULSSON
MAUDE LINDSAY.

Topics for Class Discussion

1. Make a complete list of possible achievements of parent-teacher association or mothers' club.
2. Discuss organization of parent-teacher association.
3. Make a tentative annual program for parent-teacher association, giving details for the health program.
4. Assign convenient students to visit local meetings and report on them.
5. Make suggestive reading list for parent-teacher association.
6. Discuss ways and means for getting publicity for health ideas.

REFERENCES

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Andress, J. Mace. "Health Education in Rural Schools," Houghton Mifflin Co., Boston, Chapter V.

Playground and Recreation Association of America, 315 Fourth Avenue, New York City. List of Bulletins and folders on request.

National Congress of Parents and Teachers 1201–16th St., N. W., Washington, D. C. List of free and inexpensive material on request. Official Organ, "The Child Welfare Magazine" issued monthly $1.00 per year, address 5517 Germantown Avenue, Philadelphia, Pa.

For additional material see "Sources of Free and Inexpensive Health Material" page 398.

CHAPTER IX

PHYSIOLOGY

"In my opinion, physiology is the weakest spot in our whole educational system."—Dr. Maurice A. Bigelow.

Physiology, the scientific approach to the study of personal hygiene. There is not a more important approach for teaching the youth or the adult to think clearly and accurately about the care of his body than that given by the study of physiology. The study of physiology in the grades was started by Horace Mann in 1842, but until quite recently little progress had been made in popularizing it as a study or in disseminating its vital truths. The reason for this has been that in most instances it has been a "dry-bone" text discussion of facts unrelated to the life processes of the student. The student usually disliked it heartily and memorized only enough disconnected facts to pass the subject. The lack of a clear understanding of the subject may be easily proven by questioning any group of students or adults of average intelligence on the simplest matters pertaining to the position and function of the organs of their bodies. This is a needless waste of time and good material for when physiology is taught as it should be taught it not only awakens an interest in the student in healthful living but it also teaches him to think clearly, accurately and calmly about his body and its functioning. Again this scientific background for personal health may broaden and stimulate the student's entire attitude toward personal and public health problems.

The teaching of physiology. Successful teaching of physiology is not easy. It requires certain definite qualifications of the teacher. First the teacher must have a fine personality; second, he must have an accurate scientific training in physiology; third, he must have the ability to present scientific facts accurately and at the same time in a wholesome, interesting manner. Since an outline of physiological fact needed by the teacher will be given later, this

discussion will center around the need of careful planning for wholesome reactions of the student.

The importance of teaching ideals with the study of physical life is already appreciated by those who have had the opportunity of watching the morale of medical students, nurses in training and physical education students. There is often a tendency with students of these subjects to become careless, even callous. However, while many of the younger students in most of our best schools of medicine, nursing and physical training go through a more or less short period of "earthiness," the normal reactions of the seniors and graduates from those institutions whose leading spirits—doctor, head nurse or teachers, as the case may be, are of a finer type is particularly noticeable. The fineness of the directing personnel is reflected in the attitude of the whole group. The great need for guarding the child's reactions when presenting physiological facts is stressed in one of Dr. White's excellent treatises on mental hygiene when he states that: "The human body as such, and its various functions, should never be degraded in the mind of the child." Certainly, the wonder of physiological truth should make the child feel that the facts as applied to himself are a sacred trust, that in truth, his body is the temple of his soul, the instrument of his mind, the wonderful machine that must be kept in excellent order for service to his higher self, to humanity, and to the race.

Some suggestions for vitalizing physiology. The best methods of teaching physiology follow closely the best methods used in other subjects. Stories may be used in the primary and intermediate grades, while models, pictures, and blackboard lessons are effective in all grades. For upper and high school grades, debates add interest. Class periods should be used for these stories and debates, or a place may be made on the health club program for them. Posters and booklets are also effective stimuli. Seventh or eighth grade children may be fascinated with the making of an illustrated booklet called, "My Body Workers," which may include free-hand, colored paper cut-outs of the different organs of the body, with stories of how they serve us. They may be interested also in combining their cut paper models of the organs on individual charts, making complete models of the head and trunk.

Realizing that normal children are not particularly interested

in the body per se, care should be taken to get interesting and wholesome approaches for the study of every new topic. For example, the school lunch, menu making, ordering a meal from hotel or cafe menu card, food needs for the athlete, et cetera, may be used as an approach for study of the physiology of the digestive tract. In the fifth, sixth and seventh grades, this should include a simple introduction to the study of the organs of digestion and an untechnical discussion of the digestive juices. Blackboard drawings, stories and interesting lessons should be used in applied hygiene. The latter should receive the major emphasis. The importance of the care of the teeth, the need of certain foods for the health of the teeth, table manners, clean hands, cheerfulness and well selected food properly cooked and served, the geographic distribution of foods and the means employed by man to preserve and protect them offer varied forms of self-activity for the children. The importance of thorough mastication should be stressed, while posture and digestion, sleep and digestion, exercise and digestion, respiration and digestion, the emotions and digestion make interesting additional topics. Short talks may be given by different children on what fifth, sixth, or eight grade pupils, as the case may be, should know about the stomach, lungs, or other organs under discussion.

In the study of the skeleton, emphasis should be placed on its function and its care, rather than its detailed anatomy. An interesting approach may arise from an apparent need for guidance in selection of shoes. The topic may be introduced with a collection of correct and incorrect types of shoes and a set of posters on hygiene of the feet. The interest and self-activity of the children can be developed by posters and booklets on "the twin virtues," sensible shoes. Care of the feet may be further encouraged by demonstration and practice of correct walking and by corrective exercises for the feet. An enthusiastic response from the students in care of the feet may easily lead to the physiology and hygiene of posture. (For further details on this see chapter on Posture).

Simple laboratory experiments should be used to clarify the study of the muscular system, the circulatory system, the respiratory system and the nervous system. The result of vigorous exercise on the respiration, the heart and the pulse make interesting demonstrations. Measuring the strength of the hands, taking lung capac-

ity and temperature are also interesting object lessons, especially in connection with the tests on users and non-users of tobacco and alcohol. The physiological, sociological, and racial aspects of these should be presented by the positive teaching of athletic, social and other progressive values rather than the old negative teaching in regard to these and other forms of dissipation that have been used in the upper grades.

The teacher in a city system may use some of the biology, chemistry, physics and domestic science equipment, the physical training and medical examination apparatuses to great advantage in the teaching of applied physiology in the higher grades. But the teacher in a small town or rural school should not be discouraged for with a little thought she too may lift this vital study from the limbo of dead material to an inspiring subject "to be learned and to be lived." However, unless the teacher has had definite training or is willing to give unlimited time to the preparation of her physiology lessons, it is wise to make physiology an incidental study or by-product of an applied personal hygiene or first aid course. Frequent opportunities occur in both these courses that may be used to explain certain specific points in physiology. And if all these opportunities are used, the student will not only learn some important physiological lessons but will also find the personal hygiene and first aid much more interesting. Children are much more interested in underlying facts if they are connected with life interest than many adults think they are.

When and how should instruction in physiology begin? The best time to begin the study of physiology is when an opportunity presents itself. How it should begin depends on the age and life interest of the pupil. The Colorado schools begin in the first grade and include it in every grade as a part of the health work. Outlined as their state syllabus gives it, this is practical. Opportunities are constantly offering themselves to clarify some specific point in physiology, and it should always be embraced in a simple clear-cut explanation, illustrated, if possible.

The fifth grade is a good place for the first elementary course in physiology but it must be remembered that the old formal physiology is, of course, not to be considered. The writer believes that the eighth grade is more effective for the first regular course in physi-

ology than the seventh grade recommended in many states. For details of suggested procedure in both of these grades see Course of Study, Part II.

Physiology texts. A regular physiology text is not advised before the fifth grade and should not be used then unless it is carefully chosen. Fortunately the old type primer of physiology and hygiene is being rapidly supplanted by the delightful new text book with many illustrations and suggested activities that give the child a broad and happy view of life with its manifold contacts and adjustments. Among the best series for the intermediate grades are the Andress Health Series published by Ginn and Company, Boston, the Bigelow and Broadhurst Series published by Silver, Burdett and Company, New York, the Haviland Physiology and Hygiene Series, published by J. B. Lippincott Company, Philadelphia, the Winslow Health Series published by Chas. E. Merrill Company, New York. Either one of the following texts may be used to advantage in the eighth grade, O'Shea's Health Habits published by the Macmillan Company, New York, or Winslow's "Healthy Living" Vol. II, published by Chas. E. Merrill Company, New York. To keep up the interest of children this course should be supplemented by a course in first aid and home nursing. The text used for the latter may be Lippitt's "Personal Hygiene and Home Nursing" published by the World Book Company. To the above mentioned texts, a wide list of references should be added both for teacher and pupils. Laboratory note books should be kept throughout the course and much practical work should be accomplished.

For an advanced course in physiology and personal hygiene for senior high schools, "Healthful Living," by Jesse Feiring Williams, published by the Macmillan Company, (1919) and "A Text-Book of Nursing Procedure for High Schools," by Amy E. Pope, published by G. P. Putnam Sons, (1921), are advised. These will give essentials of applied physiology and applied first aid and home nursing needed by both girls and boys in their preparation for life. Both of these texts give ample suggestions for simple laboratory experiments and interesting and thought-provoking questions. "How to Live" by Fisher and Fisk published by Funk and Wagnalls, will prove of great value as a supplementary personal hygiene text. For a still more advanced or college course in physiology, Stile's "Human

Physiology" will prove an excellent text. This will also be of great value as a teacher's reference for high school work. As Stiles says, "Physiology has been well defined as 'the physics and chemistry of living matter.'" Therefore, all advanced courses in physiology should be preceded by or taken along with courses in chemistry and physics. It should be remembered also that the scientific study of food and health makes an excellent correlation in any physiology course, while first aid and home nursing always offer additional interest.

Of course a good text is a helpful guide in any course of physiology but a number of supplementary texts will be found of great value also, both to teacher and pupils. For supplementary reading in high school classes, references may be chosen from the list of references given at the end of the chapters taking up special phases of health.

Historical. The study of the body is divided into four interrelated yet distinct subjects, namely, anatomy, physiology, hygiene, first aid and home nursing.

Anatomy deals with the structure of the body.

Physiology deals with the function of the body.

Hygiene deals with the general care of the body.

First Aid and Home Nursing deal with the emergency care of the body.

Anatomy is much older than the closely related sciences, chemistry, biology, physiology, psychology, and hygiene. As early as the sixteenth century there was a well organized and illustrated group of books on anatomy, while the sixteenth century was well advanced before there were any notable contributions on physiology. The conception of the circulation of the blood was one of the first physiological facts to be discussed. However, it was a hundred years before this and many other disputed facts were accepted scientifically. Progress was retarded mainly because of poor microscopes but with the great improvement of the lenses and with the development of biology and chemistry in the nineteenth century, rapid progress was made in physiology. Like the other newer sciences physiology is growing rapidly, and is constantly adding practical suggestions for efficient living.

It is interesting to note that the knowledge gained from any

one of the modern sciences is so closely related in its origin to each of the other sciences that no true study of one is complete without a working understanding of the others. Therefore it is urged that those who are interested in physiology should acquaint themselves with some of the elementary facts of anatomy, chemistry, physics, biology, psychology, hygiene, first aid and home nursing. Since the size of this volume will not permit a complete discussion of physiological facts and their closely related subjects mentioned, a few review questions and study topics will be appended for class discussion. A few suggestions for the teaching of first aid and home nursing will be added also and it is hoped that no teacher of health will be satisfied until he or she is thoroughly grounded in the scientific facts of the above sciences and in their application to every day needs.

First aid defined. First aid is the popular term applied to simple, prompt emergency aid to the injured and to the ill. The study of and training for this phase of service may, therefore, include home care of the sick. It should always include careful study of accident situations, accident prevention and prevention of unnecessary illness.

The emergency worker must never attempt to take the place of the doctor or trained nurse and when he or she is in doubt about what to do, it is always wise to limit activity to making the patient as comfortable as training and common sense dictates so that the patient may be put into the doctor's care in the best possible condition. Other rules for the emergency worker are given below:

1. Be quiet, calm, unhurried and gentle.
2. See to it that the patient has plenty of fresh air.
3. Think quickly. (If without emergency supplies use what is at hand).
4. Be watchful. (If there are several injuries care for worst first).
5. Use "surgical cleanliness" in handling all wounds.
6. Treat shock.
7. Send for doctor, except in cases of minor injury.

First aid in the school. That the teacher should be able to administer first aid to the usual emergencies of school life is self

evident. To do this effectively she must have training and adequate supplies in the school emergency cabinet. Well equipped first aid kits including free manual on first aid, and all types of hospital and emergency supplies can be bought from Bauer and Black, Chicago, and Johnson and Johnson, New Brunswick, New Jersey. However, if money is not available for one of these outfits, interest may be aroused among the children by encouraging the boys to make and paint an emergency cabinet while the girls prepare and roll bandages. A blackboard lesson on materials for making and equipping a cabinet will invariably awaken a desire among the children to contribute materials so that there will be only a small list of medicines that should be bought and handled by the teacher. The money necessary for these medicines can be made by a children's entertainment or may come from the local parent-teacher association. The following list will serve as a guide in selection of materials.

1 First Aid manual (attached by cord to cabinet for ready reference).

1 accurate clinical thermometer.

1 package wooden tongue depressors.

1 package drinking cups.

1 tea spoon.

1 eye glass.

1 medicine dropper.

1 medicine glass.

1 pair scissors.

1 pair tweezers (for splinters, etc.).

1 box tooth picks (for making small swabs).

1 box of matches (in safety box).

Pins, common and safety.

Needles for surface splinters. (A needle should always be flamed both before and after using—a match may be used for this).

1 small package of absorbent cotton.

1 roll surgeon's plaster.

1 roll gauze for bandages (old clean cloths may be substituted).

1 small bottle oil of cloves for toothache. (One drop in cavity).

1 small bottle of carron oil (for burns).

1 box baking soda (for first degree burns).

1 small bottle aromatic spirits of ammonia. (1 teaspoon in ½ glass water for weakness and faintness).

1 package of borax (for gargle).

1 package salt (for gargle or eye wash).

1 oz. boracic acid (saturated solution for eye wash).

1 half pint Creolin (1 teaspoonful in one pint water makes antiseptic solution).

1 half pint witch hazel (for sprains).

1 box sulphur ointment (for scabies).

1 box of mustard (to be used as an emetic).

Teaching first aid to children. Probably the most effective time to teach emergencies is when they occur but there are also many other effective times and places where emergency care may be inserted in the regular class room procedure. This may be in connection with some safety education idea or stories, poster and demonstrations of first aid; by dramatization of accident situations and treatment by children, by original stories written by children, by drills with time limit on efficient bandaging, bed making, etc. When emergency training is presented in an interesting, practical way children like it and become amazingly proficient in it. Definite suggestions and places for inserting first aid work will be noted in connection with chapter on safety education, in the courses of study for the grades (Part II of this volume) and as a regular part of their after school and holiday club activities.

First Aid texts for the grades. Gulick's "Emergencies," published by Ginn and Company, Boston, will be found of interest to intermediate and upper grades, as will Lippitt's "Personal Hygiene and Home Nursing" published by the World Book Company, Yonkers, New York. Pope's "A Textbook of Simple Nursing Procedure for High Schools" published by Putnam, and Lynche's "the American Red Cross Abridged Text Book in First Aid" published by P. Blakiston's Sons & Co. will fill the needs of high school text and teacher's references. The free manual from Bauer and Black or Johnson and Johnson already mentioned will prove of distinct service.

Topics for Class Discussion

Physiology and Hygiene

1. What is the unit of structure in the body? What is the unit of structure in a plant? Compare the two.
2. Make drawing of body cell on blackboard. Name its parts with function of each. Study various types of cells with microscope. Discuss the different uses. What is the value of a cell as a unit of structure? What are the chief characteristics of cells? Why is it necessary to have a clear idea of the cell theory?
3. Define the term tissue. Name and discuss the uses of the four most important tissues.
4. What is an organ? Give example.
5. Describe the general plan of the body, using black board drawings, models, and charts to visualize it accurately to the class.
6. Is there any connection (1) between the organs of the ventral cavity, (2) the organs of the dorsal cavity, and (3) the organs of the dorsal and ventral cavities? What conclusion should the physiologists and hygienists draw from this? What other points of hygiene should be remembered in connection with the general plan and support of the organs in the ventral and dorsal cavities?
7. Give seven uses of the skeleton. Where should the emphasis be placed in the study of the skeleton? Name some anatomical facts that are particularly helpful in the study of physiology of the skeleton, some that are useless. What are the disorders of growth that affect the skeleton? What diseases affect the skeleton? What accidents are liable to occur to the skeleton? Describe first aid care of each. What are the most important points to be remembered in the hygiene of the skeleton?
8. Define digestion. What are the mechanical, physical and chemical changes that take place during digestion? Where and how is each change made? Draw and label organs of digestive system on blackboard, use any available models and charts by way of illustration. Describe the alimentary canal.

What are the functions of the mouth and its accessory organs of digestion? Describe stomach digestion and intestinal digestion. Which foods depend almost entirely upon the mouth for digestion? Which depend upon the stomach, which upon the intestines for digestion?

9. What important points of hygiene apply to the efficiency of the digestive tract? How may food study be used to vitalize the study of digestion? What is a food? How are foods classified? How many and what food groups are available for the body as food? What foods furnish building material? What foods furnish heat and energy? What foods regulate body processes? How are food values calculated? Does the body regulate the food supply? What are the requirements for correct eating?
10. Describe and give uses of muscles—showing models and plates of muscular system. What characteristics are common to all muscles? What are the results of muscular contraction? What is the result of prolonged contraction of the muscles? When is the muscular system in good condition?
11. What are some of the direct results of poor muscular tone? Discuss the hygiene of the muscular system.
12. Use blackboard drawings, models, and charts to show organs of respiration, of circulation. Describe uses of each. Make list of health rules to be used in hygienic care of the system.

First Aid and Home Nursing

1. Discuss types of unconsciousness and their treatment.
2. What is meant by "surgical cleanliness"? Why is it so essential in treating all wounds, no matter how insignificant they may appear?
3. Make a list of types of wounds and work out simple first aid treatment for each.
4. Contrast venous and arterial hemorrhages. Locate pressure points and apply suitable bandages (1) for venous hemorrhages, (2) for arterial hemorrhage.
5. Discuss various kinds of bandages, giving demonstration of their uses.

6. Describe and give details for emergency treatment of first, second, and third degree burns.
7. What is a sprain? How should it be treated?
8. What is a dislocation? In what instances may an emergency worker attempt to reduce the dislocation?
9. What is a fracture? Should anyone except a doctor attempt to set a broken bone? Why? If patient has to be moved, what details should be taken care of by the lay worker?
10. Describe various improvised methods for carrying the injured.
11. What is an emetic and when should it be given?
12. What are the causes of bruises and what treatment should be given them?
13. Demonstrate artificial respiration (prone pressure method) for drowning patient.
14. Have a blackboard lesson on general rules for giving first aid.
15. Have students practise various first aid treatments on each other.
16. Discuss an ideal sick room, location, furniture, care.
17. Give demonstration on bed making with patient in bed and out of bed.
18. Make a list of sick room conveniences.
19. Plan menus for patient, plan entertainment for patient—young and old.

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CHAPTER X

THE POSTURE OF THE SCHOOL CHILD

"No child should be permitted to go through school any more than through West Point with a bad back. There is no excuse, unless the child is an actual cripple, and it is one of the greatest stigmas which can be laid on us teachers, that there are children leaving us who do not carry themselves properly; perhaps none greater than the way we carry ourselves."—Dr. Luther Halsey Gulick.

The effect of posture on health of the growing child. Bad posture is a serious enemy to the health, normal growth, and development of a child. It interferes with respiration, circulation, digestion, elimination, and if persisted in causes definite defects of the skeleton. Bad posture is also a handicap in all forms of motor activity because it causes lack of co-ordination, which results in lack of ease and efficiency of movement. This awkwardness in all of the life activities is a hindrance to effective work and a menace to life and limb because of a greater liability to injury from the varied forms of hazards so prevalent to-day. In direct contrast to the injurious effects of bad posture are the beneficient effects of good posture.

Good posture insures correct adjustment of the parts of the organism to each other thereby giving free play to the lungs, heart and abdominal organs; it prevents waste of energy in maintaining an erect attitude; it promotes ease, control, and buoyancy of movement; it encourages proper growth and development. To summarize, good posture increases vigor and efficiency, diminishes fatigue and stimulates elimination of waste. It gives to the body an expression of elasticity, strength, freedom, poise, dignity, and beauty, which is a joy to the eye of the beholder and a positive power to the individual possessing it.

To appreciate the need for posture training, it is necessary to understand that good posture is more than mere standing erect. It is the habitual right use of the body—standing, sitting, walking,

lifting, bending, stooping, stair-climbing, hill-climbing, and in any additional social, occupational, or school duties as well as in repose. Therefore it is highly important that children should be taught how to stand, how to walk, how to sit, how to lift and bend, how to go up and down stairs, in fact how to move without strain or lost motion under all conditions.

All instruction in the correct use of the body should include training in repose of manner. "Not the repose of a stalled ox," says Ruskin, "but rather that of an eagle on the wing." That repose of manner is a sadly lacking characteristic of the tense high strung twentieth century civilization is evidenced on every side. Its economic value in conserving energy alone should recommend it to this utilitarian period. But repose of manner expresses more than conservation of energy, it expresses power, the ultimate ideal of that grace which is "ease in force."

The good posture movement. Happily, the movement to improve the posture of American school children and to banish the predisposing causes of bad posture in schools has spread rapidly in recent years. It has become one of the definite aims on all health and physical education programs. School hygiene is emphasizing the riddance of predisposing causes of bad posture, while the hygiene of instruction is giving careful consideration to class-room procedure. The need for the combined efforts of all persons interested in child health was readily seen when the fact that 75% of American school children had some posture defect was presented by Dr. Thomas D. Wood a few years ago.

But the good posture movement has not been confined to the school child. The American Posture League has stimulated many directors of industrial plants and other business organization to study ways for improving occupational conditions that interfere with good posture of their employees. It has also been responsible for many practical suggestions and excellent designs for furniture and clothing. It has marketed the Mocher-Lesley schematograph, an instrument for making outline drawings of pupils. The study and the comparison of these outlines taken at intervals with reference to improvement has proven helpful and stimulating to both pupil and teacher.

Posture tests, standardized by the League, and wall charts

showing correct posture, may be obtained by writing to the office of the organization, 1 Madison Avenue, New York City.

Causes of posture defects. There are many direct and predisposing causes of posture defects. First there are the diseases—rickets, tuberculosis, and infantile paralysis—which interfere with the normal development and health of the bony structure; second, remedial defects as poor vision, deafness, adenoids or other nasal obstructions, malnutrition, fatigue, weak muscles, or general weakness; third, bad school-room conditions as incorrect lighting, heating, ventilation, seating, and poor school-room procedure as too long study periods, inadequate rest periods and lack of physical activity both indoors and on playground; fourth, faulty habits of posture such as standing with weight on one foot, sitting on one foot, carrying books on one hip or over one shoulder, carrying hands on the hips or in the pockets, sliding down in chair until body rests on the end of the spine, sleeping in cramped position or on high pillow, and toeing out; fifth, unhygienic clothing as hose supporters hanging from tips of shoulders, coats made on stoop back model, incorrect foot wear, both hose and shoes; sixth, child labor—weight carrying, fatiguing labor either indoors or outdoors; seventh, incorrect and long continued music practice—posture of entire body of piano or violin pupil should be as carefully supervised as fingers and wrist; eighth, poor training as nagging, lack of right ideas of posture, and wrong methods.

Suggestions for posture training. In discussing a practical procedure for development of good posture, Dr. Jesse F. Williams insists that "What is needed is a more rational school program, rather than the same program with posture exercises." While Miss Drew voices the present attitude toward formal and informal methods in teaching posture when she says that three-fourths of our posture training should be from the psychological point of view, as three-fourths of the good is done by awakening pupil or person to the realization of his trouble and one-fourth is done by work. Therefore, if a teacher hopes to achieve good posture for herself and for her pupils she must get a higher value than mere mechanical adjustment, she must visualize the spirit of good posture. As Professor Latham expresses it "Good posture like good speech comes

from within"—again, "Posture, like character, is more easily caught than taught."

The first problem then in direct posture training is to give the right posture ideals. The initial inspiration should come from a thoroughly alive teacher whose posture is an expression of these ideals. Further appreciation of good posture may come from the study of certain uplifting quotations, pictures, sculpture and by helpful and suggestive commands with striking elevation cues. The second problem is closely akin to the first that is, to prevent exaggeration and stiffness in the child's first response to the inspiration or commands given to gain good posture. There is a quotation from Fisher and Fisk's book "How to Live" that gives an ideal which should help to meet both of these problems as should the other quotations given:

"Between the slouch and the slink of the derelict and the pompous strut of the pharisee, or the swagger of the bully or the dandy, there is the golden mean in posture, which stands for self-respect and self-confidence, combined with courtesy and consideration for others."

Ode to Posture*

Good Posture is an asset
Which very few possess,
Sad to relate, the favored ones
Seem to be growing less.

We see the folks around us
All slumped down in a heap
And the way that people navigate
Is enough to make us weep.

Some elevate their shoulders,
Some hollow in their backs,
Some stiffen up their muscles,
And some just plain relax.

The one who walks with grace and poise,
Is a spectacle so rare
That even down on gay Broadway
The people turn and stare.

*From "Individual Gymnastics" by permission of Lillian Curtis Drew.

If you would cut a figure
In business, sport, or school
Just mind the posture precepts
Obey the posture rule.

Don't thrust your head out turtlewise
Don't hunch your shoulders so,
Don't sag and drag yourself around
No style to that you know.

Get Uplift in your bearing
And strength and spring and vim
No matter what your worries
To slouch won't alter them.

Just square your shoulders to the world,
You're not the sort to quit
"It isn't the load that breaks us down
It's the way we carry it."

"He trod the ling
Like a buck in spring
And he looked
Like a lance at rest."—*Kipling.*

"—with all hearts bowed in strange control
Of the heavenly voice of his violin,
Why, it was music the way he stood,
So grand was the poise of the head and so
Full was the figure of majesty!
One heard with the eyes, as a deaf man would."—*Riley.*

"It is not the load that breaks the bearer down but the way the load is carried."—*Goldwaithe.*

"Look up and not down,
Look forward and not back,
Look out and not in;
Lend a hand."—*Edward Everett Hale.*

"Oh, to be spiritually self-poised
Ready for all contingencies."

Grace is ease in force
Awkwardness is waste of energy."—*Ruskin.*

"I charge my soul
To lift my body
Strengthened to meet the sun."—*Anon.*

"So when art would embody in beauty the idea of triumph without weakness, of glad elation untouched by envious defeat, of high intelligence overcoming the barbarous and base—when it would add to the fairest human loveliness some kind of superhuman power and dominion over a region more vast than earth—it created the Victory of Wings, to be a lasting signal before our wondering eye, and an incentive to that dignity of bearing which we behold only in the rarest personalities."—*Bliss Carman.*

'Motion is greater than form."—*Delsarte.*

The laws of motion:

(1) "When every part of the organism occupies its perfect position in relation to all parts, the organism is perfectly adjusted."

(2) "When the organism is perfectly adjusted it is in condition to be perfectly supplied with force."

(3) "When the organism is perfectly adjusted, perfectly supplied with force, it is perfectly free!"

(4) "When the organism is perfectly adjusted, perfectly supplied with force and perfectly free, it works with the greatest economy of expenditure, that is, it has perfect grace, which is charm."

(5) "When the organism is perfectly adjusted, perfectly supplied with force and perfectly free, and works with the greatest economy of expenditure, it is fitted to be a perfect instrument of impression, experience and expression."—*Delsarte.*

There is inspiration for good posture, physical development and grace of movement in the study of beautiful paintings, for example, Reni's Aurora, Van Dyke's Prince of Nassau, Richter's Queen Louise, Gainsborough's Mrs. Sheridan, Peak's Washington, Burne-Jones' The Golden Stair; from the study of some of the great pieces of sculpture as, The Winged Victory, Mercury, The Discus Thrower, Minerva, The Greek Swimmer, "Belvedere" Apollo, Diana of Versailles, the "Farnese" Bull Group, Michael Angelo's Moses, Canova's Hebe and many equestrian statutes; from the study of noble architecture with its graceful columns, lofty spires, and friezes; from the study of the flowers, shrubs and trees. "Was there ever a poem more beautiful than a tree?"

After the idea of good posture is emplanted in the hearts and minds of the pupils, the spiritual center, that portion of the upper chest underneath a hand's breadth from the base of the neck, must become the lifting power, which pulls up from elastic, parallel feet, through elastic ankles, straight strong knees, though the heavy pelvic bones, through the sagged muscles and organs of the abdomen, through a high heart, through an easy chest, until the spine is easily tall—over this then will be an open throat and a head that is at ease on a neck that, like the spine, is a column of freedom and grace.

An easy carriage of the shoulders should be developed along with this idea. The old nagging remarks—"Hold your shoulders up."—"Hold your shoulders back," have been the cause for persistent bad posture in many instances. However, many people who have not been nagged have drifted into the bad habit of holding one shoulder higher than the other. (Tenseness of any part of the body is a needless waste of energy—many people hold in their abdomens as a matter of mistaken good posture.) Frequently, shoulders can be levelled by merely giving the pupil the idea that they are not truly deformed and by showing them that with a little practice in relaxing—"turning loose," "letting go"—of their shoulders they can level them.

But, to make a perfect and lasting whole of posture training the other one-fourth of the corrective program suggested by Miss Drew,* must not be neglected—namely, the correction of all pre-

*Drew, Lillian, "Individual Gymnastics" Lea & Febiger, Philadelphia.

disposing causes of poor posture, and posture training—relief drills, posture drills and individual instruction.

Posture tests and drills.* The vertical line test and the triple posture test are the accepted standards for checking the posture of school children. The details of these tests† and a most comprehensive discussion of the posture of school children is given in the authoritative book, "The Posture of School Children" by Miss Jessie H. Bancroft, which should be on the reference shelves of every teacher of health and physical training.

The vertical line test is the easiest and surest method for judging standing position. This consists of dropping a line from the front of the ear to the forward part of the foot. A window pole is probably the most practical equipment for this test. If there is not a pole convenient the teacher may have her pupils stand one at a time by the edge of the open door. Miss Bancroft, says;* "The body is in a perfectly erect attitude when the long axis or diameter of the trunk is a perfectly vertical line; the long axis of the neck and head taken is also a vertical line," while "The shoulder blades should be flat across the back" and "the feet should be directed straight ahead." This places the weight well forward over the balls of the feet. Deviation from the perfect standing position is noted in the vertical line test by two or three "zig-zag lines."

For judging endurance in holding good posture the triple posture test is used.* This consists of a monthly test of class (1) in standing position, according to the vertical line test, (2) marching for three minutes, (3) gymnastic exercises for three minutes. All three parts of the triple test should be given in rapid succession. Any child found in poor posture during any part of the test should be told to sit. The pupils left standing at the close of the entire test should be placed in Group I for posture; the others in Group II. Group I should be further divided into Group A, those who always have good posture, and Group B those who have sufficient endurance to pass the triple test. Group I and II should be separated for the regular physical training lesson. This posture test should be re-

* Bancroft, Jessie H. "The Posture of School Children," Used by permission of The Macmillan Company, New York, p. 6.

† Also available from the American Posture League, 1 Madison Avenue, New York City.

peated the first day of every month. If a permanent blackboard record is kept from month to month it will stimulate interest.

Elevation cues should be used with both groups of children and special corrective work given Group II. If there is a special teacher of physical training she should give definite time to Group II. Simple corrective exercises may also be used by the class teacher. Children should be promoted according to progress. Rivalry between classes, awards, (Good Posture Pins) and grading for posture are also excellent incentives.

Posture cues. Posture cues or admonitions frequently called "elevation cues" are most helpful in posture work. The following are some of those that have been used successfully. "Stand tall," "Look up," "Heads high," "Flat backs," "Weight on balls of feet," "Elastic feet and ankles," "Toes straight ahead," "A high-heart," "Stand like soldiers," "March like soldiers," "Walk like a queen." All corrective exercises must start from good sitting or standing positions. Relief drills and posture drills invariably start with:

"Clear desks for gymnastics."
"Good gymnastic sitting position."
"Stand."

While these drills may serve by breaking the tedium of the present herd system of education, it should be remembered that "the only corrective work of any value or significance is individual not class work."*

Corrective exercises. Miss Bancroft tabulates corrective exercises as follows: †

1. Elbows forward and backward.
2. Head bending backward.
3. Trunk bending forward. (Later, add to this, arm stretching sidewise.)
4. Trunk bending sidewise.
5. Sitting, trunk dropping backward.
6. Knee bending.
7. Breathing exercise.

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* Drew, Lillian. loc. cit.
† Bancroft, Jessie. loc. cit.

Common Orthopedic Defects

Defect	Symptoms	Causes	Results	Prevention	Treatment
Kyphosis. (outward curvature).	Round shoulders. Round back. Winged scapulae. Flat chest. Protruding abdomen. Expression of entire body is that of weakness, dejection, failure.	Rickets. Tuberculosis. Malnutrition. Acute illness. Nearsightedness, uncorrected by glasses, deafness, adenoids and other nasal obstruction. Weak muscles. General weakness. Fatigue. Incorrect clothing. Poor ventilation. Unhygienic clothing as hose supporters which place pull on points of shoulders. Incorrect seating, (a) Desks or work benches that are too low. (b) Seats that are too high or too far from desk. Nagging.	Vital organs sag. Interferes with circulation, respiration, elimination.	Correction of remedial defects. Correct feeding. Sufficient sleep with windows open and without pillow. Rest period for young or weak child. Outdoor play. Improvement in school hygiene—lighting, seating. More hygienic school program.	Correction by specialist of all defects as nearsightedness and nasal obstruction. Medical treatment of any diseases as rickets, tuberculosis, hookworm. Hygienic program of living, eating, sleeping, vigorous outdoor play. Corrective exercises. Improvement in school hygiene and hygiene of instruction.

Common Orthopedic Defects

Defects	Symptoms	Causes	Results	Prevention	Treatment
Lordosis, (inward curvature).	Exaggeration of normal lumbar curve. Protruding abdomen. Expression of entire body may be a "cock-sure" pompous strut or a repressed stand-off dignity.	True lordosis. (a) Disease of hip joint as tuberculosis. (b) Dislocation of hip. Postural lordosis. Faulty idea of posture.	Vital organs tipped backward. Pressure on vertebrae. Waste of energy.	Early diagnosis and treatment of diseased or dislocated hip joint. (The child with pain, slight rigidity or tenderness of the joints or the child who develops an unaccountable limp should receive prompt treatment by doctor—orthopedic surgeon, if possible.)	True lordosis, where there is either disease or injury of joint falls entirely in line of doctor's work. With early diagnosis and treatment, recovery almost sure. Delay dangerous. Postural lordosis can be corrected by trained classroom teacher or physical training teacher. But diagnosis should first be made by doctor.

Common Orthopedic Defects

Defect	Symptoms	Causes	Results	Prevention	Treatment
Scoliosis. (Lateral curvature.) 1. Functional or postural scoliosis. 2. Structural scoliosis.	"One-sidedness." One shoulder higher than the other one. One hip higher than the normal one. Clothes wrinkle on one side of the back. May be with or without rotation or twisting of spine to one side. There may be two lateral curves in same spine.	Astigmatism. Deafness in one ear. Faulty habits of posture. a. Standing on one foot. b. Sitting on one foot. c. Sleeping on high pillow. d. Carrying books on one hip or over one shoulder. e. Carrying a younger child on one hip. f. Carrying heavy burden on one shoulder. Incorrect seating, (Desks that are too high). Exercise or occupation that uses only one side of body.	General constitutional weakness. High susceptibility to fatigue. Crowding and displacement of internal organs.	Correction of defects of vision and deafness with predisposing causes of the latter. Careful supervision of posture habits. Children should not be allowed to sit on one foot, sleep on high pillow, stand on one foot to recite, etc. Correct seating. Avoidance of exercises, games, and occupations that develop only one side of body. Good hygiene in all particulars.	Examination by expert to determine whether or not spine is affected. Remove causes, improve general health. Use mobilizing and strengthening exercises. Specific corrective exercises should be given by specialist, if case is structural one. Functional scoliosis belongs in hands of specialist who will need the patient cooperation of patient for cure is difficult and slow. Simple loosening up exercises, walking with light object on head and conscious effort to relax the high shoulder and hip. Can be directed by teacher for postural scoliosis.

Common Orthopedic Defects

Defect	Symptoms	Cause	Results	Prevention	Treatment
Flat-foot. ("Pronated foot," "broken arch," "fallen arch.")	Heavy, inelastic, ungainly gait. Foot gives way under the weight it carries and rolls in. Arch not broken but the muscles that hold the foot in normal position have given away. Rolled in ankles. Toes turned out in walking. Heel of shoe worn out on front inner corner. Sole of shoe showing greatest wear on inner half. Barefoot test showing more than a narrow connection on outside of foot from heel to forward part of the foot. More or less swelling of the foot and ankles. More or less swelling of foot.	Incorrect feeding during prenatal period, infancy, childhood. Muscular weakness. Poorly fitted shoes or hose. Habit of toeing out. Persistent jumping flatfooted or stamping of heels. Sudden and complete change from high to low heeled shoes unless feet are naturally strong or exercises are taken to assist in readjustment of foot to change in weight.	Loss of suppleness, elasticity and strength given by the articulators of the normal foot. Obliterates efficient movement. Destroys ability for persistent effort.	Correct feeding of pregnant mother. Correct food in infancy and throughout childhood. Walking with feet parallel to each other. Correct hose and shoes. Vigorous exercise of feet.	Corrective shoes. Carefully fitted hose. Daily bath and massage of the feet. Toeing straight ahead in walking. Bandaging (by a doctor). Corrective exercises.

Common Orthopedic Defects

Defect	Symptom	Causes	Results	Prevention	Treatment
Pigeonbreast.	Breast bones project and look as if they had been compressed from the sides.	Apt to occur in rickety children. Sometimes follows whooping cough.	Lowered chest capacity.	Correct feeding and general hygienic routine of living.	Rarely serious, frequently corrects itself.

Defect	Causes	Results	Prevention	Treatment
Knock-knees and bow-legs.	Rickets chief cause but conditions encouraged by artificial walking equipment.	In permanent malformation of legs if not corrected.	Prevention of rickets which is purely a nutritional disease due to incorrect diet during prenatal period, in infancy and childhood.	Should be in hands of doctor preferably orthopedic surgeon.

A few simple exercises for relaxing and strengthening the lumbar section of the spine are given below:

1. Lie down on back on bed or other soft surface, relax lumbar section of spine (small of back) against bed. If curve is very great, put small pillow in curve and first learn to relax against that. Gradually do away with pillow and relax back easily against bed for the entire length of the spinal column (night and morning), holding position for a few minutes.

2. Same position as No. 1. Kick right foot toward left shoulder, (knee slightly bent). Begin with ten kicks and add as many as needed, (night and morning). This exercise also excellent for elimination.

3. Sitting position, straight chair; sit easily, erect and well back in chair, let shoulders and hips touch back of chair, try to touch back of chair by relaxing lumbar vertebrae, keep shoulders flat against chair. In some cases will again need pillow for a while, (once a day until flexibility is established).

4. Sitting position. Raise right leg until it is on plane with thigh, toe up; pull the toes until muscles back of leg are straight, raise left arm and touch right toe—Cues, head up! flat back—movement at nature's bending point, the hip! Play with the toes! Don't let them get away! The more it hurts your legs the more you need it. 4–8 times. Rest! Same, left foot, right hand. (Note: Never give "Trunk Backward, Bend!" for this or any other defect.)

Foot Exercises

Standing Group

1. Toe extension.
   Feet parallel or with toes slightly in, about three inches apart. Rise on toes, keeping forward part of foot on floor! Raise heels placing weight gradually forward! Roll heels outward (10–20 times daily).
2. Rising on toes, walking on tip toes.
3. Rise on tip toes, coming slowly to squatting position. Do not spread knees! Do not let heels touch floor! Back flat! Head up! (5–10 times daily). Slowly!
4. Barefoot—weight well forward, raise and spread toes apart.

5. Toes point, Forward! Touch! Inward! Touch!
6. In walking touch heels lightly, "as if cat's tail, hot stove or baby's finger were underneath them." Weight goes immediately forward over arch to ball and out through toes, which should have freedom to spread.
7. Rhythmic walking forward. (Book on head). Swing leg forward freely from hip, touching heel lightly with weight quickly shifted to forward part of foot.
8. Rhythmic walking backward. (Book on head). Swing leg backward at hip, placing toe directly behind forward heel, gradually allow foot joint by joint to come down lightly to heel. Same other foot.
9. Beam walking for balance. (Arrange beam about size of railroad rail firmly on floor. Practice walking beam without and later with book on head. Excellent for balance and control.)

Sitting Group

1. Toe wiggling.
2. Draw toes back under feet and hold for ten counts. Repeat ten times.
3. Toe extension. Feet flat on floor, toes pointing forward or slightly in. Keep toes on floor raise heels and roll feet out. Repeat 10–20 times daily.
4. Sit well back in chair push on heels until back of legs are straight. Push on toes, make little circles at the ankles, Inward! Outward! Push on toes, push on heels, relax to floor.

Class Activities

1. Give demonstration of and have class practise corrective exercises for (1) lordosis, (2) kyphosis, (3) scoliosis, (4) flat-foot.
2. Make a schematograph test of all students.
3. Develop and practice various forms of "Relief Drills," vertical line test and posture drill.
4. Have demonstration on groups of students, (1) by teacher, (2) by students. Encourage students to make original posters, con-

test poems, songs, playlets. Share these with student body whenever possible.

5. Let class evolve a posture creed.
6. Have students observe posture work in convenient school and report on it.
7. Study ideal conditions for posture in school, in different professions and industries.
8. Outline personal program that will encourage good posture.
9. Celebrate Good Posture week.

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CHAPTER XI

POISONS

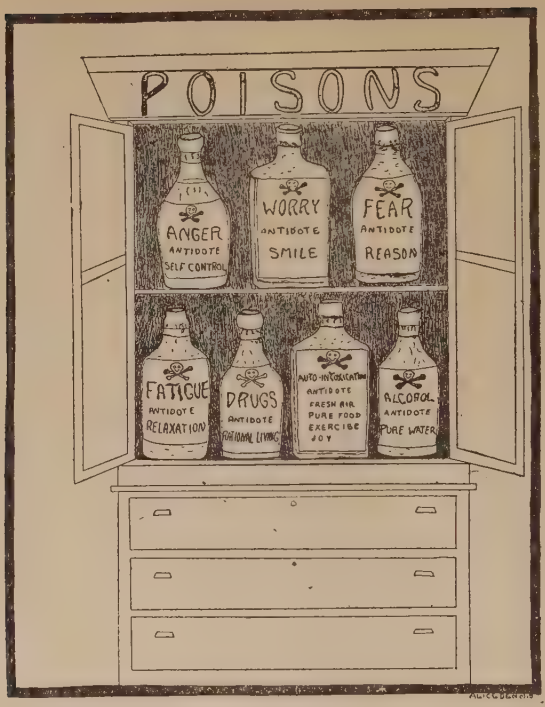
"It is not alone important to keep down the total amount of poisons produced within the body. It is equally important to exclude the entrance of any additional poisons from outside." *—FISHER AND FISK.

Sources of poisons. Until recently, the layman has been prone to think of "poisons" as drugs that come in bottles carefully labeled and marked with skull and cross bones. Now, he is being taught that any substance if it is injurious to health, whether it is taken into the body or formed within the body is a poison. For convenience in discussion, these poisons are usually divided into two groups: (1) poisons that may be taken into the body; and (2) poisons that are formed within the body.

Poisons from outside the body—suggestions for living. The only way to escape the insidious influence and the devastating effects of habit-forming drugs is in total abstinence. There is no middle ground of tampering with them, for the will power is so quickly undermined by them that no man's strength is sufficiently great to merit the grave danger he is running if he attempts to play with any of them. Besides the "come-back" call of the drugs themselves there are two other factors to be considered, namely—(1) the urge of the subconscious mind to escape reality; and (2) the force of habit itself. James brings home the certainty with which habits work in the various spheres of life when he says:

> "Every smallest stroke of virtue or of vice leaves its never so little scar. The drunken Rip Van Winkle, in Jefferson's play, excuses himself for every fresh dereliction by saying, 'I won't count this time.' Well! he may not count it, and a kind Heaven may not count it; but it is be-

*Fisher and Fisk, "How To Live," Funk and Wagnalls, New York, p. 65.



MENTAL HYGIENE CHARTS MADE BY SENIOR NORMAL STUDENTS

ing counted none the less. Down among the nerve-cells and fibers the molecules are counting it, registering and storing it up against him to be used against him—when the next temptation comes." *

Alcohol. The alcohol in all intoxicating beverages—spirits, wine, beer, and ales, is an insidious poison because it gives the temporary feeling of renewed strength and courage to its user—while in truth, scientific investigation and experimentation prove that it only paralyzes the sense of fatigue and lowers both the amount and the quality of work. It has also been thoroughly proven that alcohol affects the highest centers of the brain, namely those concerned with self-control and wise self-direction. Alcohol gets into the blood stream more easily than any food, the blood stream carries it directly to all the cells of the body and it poisons every cell it comes in contact with. These alcohol-poisoned cells suffer in two ways: "(1) they are slower in getting nourishment from the blood; and (2) they are slower in getting rid of their waste." † Alcohol paralyzes the white blood cells therein lowering further the body's resistance. This is the reason the drinker is a poor risk either in the operating room or the sick room, as resistance to surgical shock or prolonged illness has been lowered. The use of alcohol also encourages degenerative diseases—the diseases of the kidney, liver, heart and blood vessels. The use of alcoholic beverages even its "moderate" use is likely to shorten the life of the user. But worse of all it is a racial poison, that is, the use of alcohol by one or both parents tends to injure the offspring physically, mentally, and emotionally.

Nicotine. Many careful experiments have been made recently on tobacco users and non-tobacco users. To summarize the evil effects of its use: (1) it interferes with the normal growth and development of the child and youth as shown by actual measurement in weight, height, chest development and lung capacity; (2) it has a "deleterious effect upon the heart, the blood pressure, arteries, nervous system, eyes, physique, upon industrial output and business efficiency and probably upon longevity and death rate, and the in-

* *James' Psychology, Vol. I, page 127.

†Jewett, Frances Gulick. "The Next Generation," Ginn & Co., Boston, p. 146.

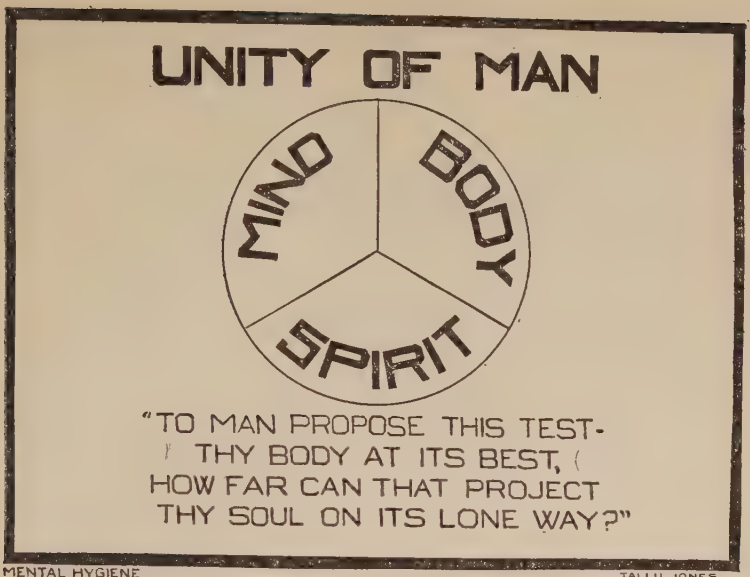
crease of such affections as tuberculosis and cancer;" * (3) it lessens physical fitness says Professor Pack of the University of Utah, whose research shows tobacco-using athletes distinctly inferior to non-tobacco using athletes; and (4) Professor Bruce Fink of Miami University, Oxford, Ohio, Dr. Seaver of Yale University, Dean Hornell of Ohio Wesleyan University and many other careful investigators agree that the records of smokers and non-smokers among the students of various colleges prove that the use of tobacco seriously injures the mental efficiency of the student.

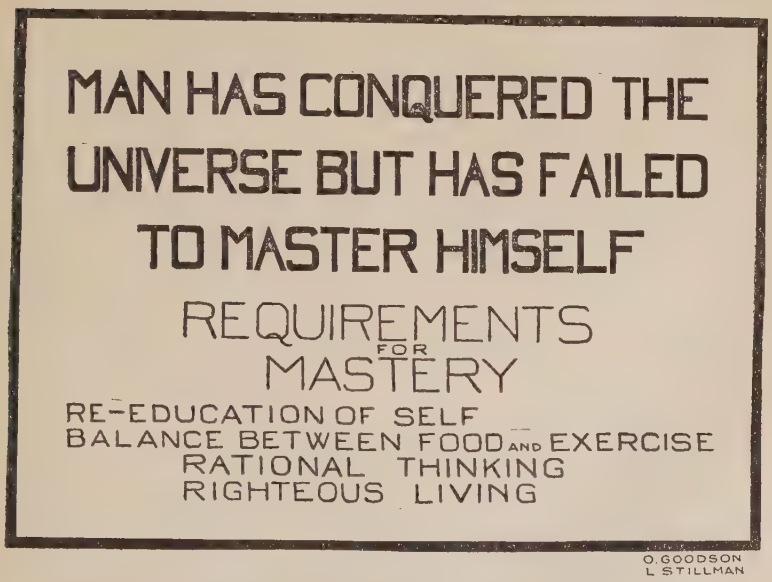
Food and drink. Pure food laws are a great protection but there are poisons taken as food and drink in other forms than in impure food. Tea, coffee, chocolate and cocoa are all stimulants. Tea and coffee are in no sense foods because the minute quantity of substance in them cannot be dissolved and used by the body. Tea contains the poison theine, also tannin which interferes with the secretion of digestive juices and particularly interferes with the digestion of protein. It also encourages constipation.

Coffee. The poison in coffee is caffein. It also has some tannin. While the amount of both of these poisons is less than the theine and tannin in the same quantity of tea, when it is known that a greater amount of coffee is used to make a cup of coffee than tea to a cup of that beverage the amount of harmful ingredients is about equal. Chocolate and cocoa are foods and belong to the starchy family but on account of the theobromine, a stimulant of the same nature as theine of tea and caffein of coffee, should be used in small quantities and in general should not be given to young children who are easily excited or stimulated. Coffee and tea should not be given to children at all.

Ptomaines. The poisons causing ptomaine poisoning are not due to tin cans but to bacteria found only in protein foods such as milk, fish and meat. Canned meats and fish are particularly liable to cause ptomaine poisoning because the temperature used in cooking is not sufficiently high to kill the bacteria in the center of the containers when canned. Like many putrefaction-producing infections, taste or appearance are not safe methods of judging purity.

*Fisher, Irving. Series of Articles, Dearborn Independent, October, 1924.





Mental Hygiene Charts Made By Senior Normal Students

The only safe thing to do is to be sure that food has been carefully cared for by manufacturers of proven honesty and experience.

Diseases. All infections causing the so-called communicable diseases belong to the group of poisons from without the body.* Since venereal diseases were not included in the outlines in Chapter V, it might be wise to give a special word of warning about them. Any boy or girl, man or woman who leads an immoral life is subject to the infection of these dread diseases with such consequences as blindness, heart and joint diseases, peritonitis, paralysis, and insanity. But, the direct result to the infected person is not the most pathetic result of the venereal diseases. Innocent wives and children of infected persons may be subject to all of the above consequences. Any woman who marries a man with either of the venereal diseases is very apt to become infected. No boy or man can visit a prostitute and be sure of escaping the curse of these terrible diseases. Again innocent people may become infected by use of linen, public toilets, and public drinking cups, soiled by venereal infected persons, and by kissing the lips of such persons. Syphilis like alcohol is a racial poison for it may damage or kill directly or indirectly the offspring either before or after birth. Venereal disease may prevent procreation entirely.

Poisons formed inside the body—suggestions for living. Among the poisons formed within the body are those produced as by-products of life-processes. Examples of these are found in the feces which are a combination of substances thrown off by the intestines, including cellulose from food, bacteria, dead and alive, mucus and cast off cells from the epithelium of the tract, and the poisonous compounds from proteins; the compound urea excreted by the kidneys; poisons formed by fatigue; and the poison substances produced as a by-product of such emotional states as anger and fear. Poisons are also produced in diseased organs—for example diseased tonsils, gums and teeth.

Constipation. "Intestinal intoxication," often inaccurately termed auto-intoxication, results from undigested food or from the decomposition of the contents of the intestines where the contents are retained too long in the body. Since it is caused by food and food comes from without the body, it might seem to belong to that

*See Chapter V for outlines on common infectious diseases.

group of poisons, but since it is the result of a life process carried on within the body, the discussion will be included in the group of poisons formed within the body.

Constipation is extremely common and is due to many causes. 1. An habitual slouching posture invariably results in constipation because it means lack of tone in the muscles that give support to the contents of the abdomen. This encourages sagging organs, stagnation in liver and splanchnic circulation. Therefore one of the first measures to be employed in prevention or correction of constipation is the development of an easy erect carriage of the body.*

2. Another major cause of constipation is incorrect diet. To prevent or correct constipation by a wisely chosen diet is highly practical. While foods should always be chosen to make a balanced ration—emphasis should be placed also on avoiding too much protein food, too concentrated food or too highly seasoned food and on adding "some raw, hard and bulky food" to the daily dietary.

3. Most people do not drink enough water and this has its effect on their elimination. Babies should have water often during the day. Children should have at least four glasses per day, adults six to eight glasses per day. The glass before breakfast is particularly encouraging to early morning defecation.

4. Lack of attention to nature's calls is one of the most dangerous of all bad habits. This is true both of neglect in voiding (emptying the bladder) and in defecation. In the former case the system reabsorbs the poison that it would have eliminated from the kidneys. In the latter case, the inclination for defecation quickly passes in most instances and is not apt to return again that day. Regularity of hours for daily defecation is absolutely essential in preventing and in overcoming constipation.

> "The most favorable time, both as regards the physiologic states of the bowel and the organization of the day's program, is immediately after breakfast. It should be mentioned in this connection that a very common cause for unsatisfactory results at this time is improper height of the toilet seat. It is usually too high. An ideal seat would place the body in the position naturally assumed by man in

*For details see Chapter X "Posture."

primitive conditions. The seat should be low enough to bring the knees above the seat level. This may be accomplished by placing the feet on a small box." *

5. Massage gives excellent encouragement for evacuation of the bowels. If the patient's other habits are good and he will arise with some thought of elimination, and drink a glass of water, nature will soon get in the habit of early morning defecation. Observation on savage and uncivilized races show that they defecate two or three times per day. Since civilized man would probably defecate more often if he would lead a more normal life it is suggested that it would be wise if the habit of going to the toilet after breakfast was followed after the noon and evening meals also. At least there should be one complete evacuation of the bowels daily.

6. Of course no discussion on constipation is complete without mention of the great value of exercise. Walking is particularly effective—all outdoors games and sports encourage nature's normal functions. Corrective exercises are also most helpful with stubborn cases of constipation.

7. While attempting to establish good habits of elimination the daily use of two or three tablespoons of paraffin oil, a colorless, odorless, tasteless mineral oil, which is nothing more than a lubricant has been proven effective. Agar-Agar, a Chinese sea-weed is also used to add bulk and encourage elimination. This is not digestible but like the mineral oils is merely a mechanical method of encouraging defecation. Many people find two or three tablespoons of lightly toasted bran helpful if taken daily with cereal or in their bread.

8. The daily pill and the daily or frequent enema habits are dangerous. To begin with no pill or enema will ever do away with the true cause of poor elimination and either habit will grow upon a person until normal defecation is infrequent or stops entirely. The constant use of pressure enema (type upon which patient sits) may also cause what is known to the surgeon as ballooning of the intestines, that is enlargement of walls of intestines in spots which make pockets for catching and holding part of the fecal mass. The con-

*From J. F. Williams. Personal Hygiene Applied. Chapter X. W. B. Saunders Co.

stant use of any enema may also irritate the rectum thereby laying the foundation for hemorrhoids while it lowers the tone of the rectum. Everyone should remember that pills and enemas are emergency treatment and that the acquisition of good health habits that will assure regular bowel movements is the first goal in personal hygiene.

Fatigue. Continued exercise of a muscle produces certain waste products which are called fatigue poisons. The poisons thus formed include carbon dioxide, sarcolactic acid (lactic acid) and probably other fatigue products. Continued stimulation of nerve tissue produces the same kind of fatigue substances as those produced in the over-exercised muscle. However, nerve tissue does not enter the state of fatigue as easily as muscle tissue. This is due to the low intensity of the metabolism of nerve tissue and its remarkable affinity for oxygen. The cell bodies of the nerves differ in their response for they show an intense metabolism which results in quick fatigue.*

The strained feeling and eventually the pain exhibited by fatigue in human muscles is an interesting example of the unity of man because the fatigue cannot be assigned wholely to the muscles. At the same time that muscles are used, nerves are used, therefore there is a nervous element in all fatigue. The direct effects of fatigue on nerve conditions are given by Dr. King as follows:

> "Fatigue is the sign that the reserve stock is being drawn upon, that one has begun to consume his principal. To continue work in spite of weariness is simply to drug the watchman of the treasury. Direct experiments in electrical stimulation of the nerve cells of frogs and cats show a 'remarkable shrinking of the nerve-cells, particularly of the nuclei.' After five hours' continuous work, the cell nucleus is only half its normal size, and twenty-four hours of rest are necessary for complete restoration to its normal state. But half the amount of work, it is particularly worth noting, does not require nearly half the amount of recovery." †

With normal fatigue, a good night's rest is all that is needed to renew the power of surplus energy. But when fatigue accumu-

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* Burton–Opitz, Russell. "A Text book of Physiology," W. B. Saunders Company, Philadelphia, Pa. pp. 83, 139–40.

†King, Henry Churchhill, "Rational Living," The Macmillan Company, New York City. pp. 70–71. Used by permission of the publishers.

lates and the process of restoration continues incomplete pathological fatigue, called neurasthenia results. Fatigue affects the powers of attention and self-control, the memory, perception and all forms of activity. Therefore if man hopes to be physically comfortable, intellectually efficient, and morally sound he must adopt the conditions for what Emerson calls "plus health," namely work, rest, play, sleep, and avoidance of all forms of excess. Surplus nervous energy assures freshness of mind, body, and spirit which goes far toward making a joyous, efficient life, while the ever-tired person dooms himself or herself to failure.

Diseased tonsils, carious teeth, and diseased gums—causes of focal infection. As has been previously stated healthy tonsils are destroyers of disease germs, while unhealthy or diseased tonsils are breeding places for them. The amount of pus thrown directly into the system by way of the digestive tract is amazing. Systemic infection of other parts of the body is often due to invasion of pus organisms from the diseased tonsils. Heart-trouble or rheumatism may result. The cure for diseased tonsils is their complete removal.

The details of the prevention of carious teeth and diseased gums is a matter of careful oral prophylaxis—the knowledge of which is being so widely disseminated by oral hygienists, the dental profession, dental clinics, and the press, that this menace to good health should soon be eliminated.*

Topics for Class Discussion

1. Plan a series of lessons for primary and intermediate grades showing why milk is better than tea or coffee.
2. Make a list of interesting ways and means for convincing the high school boys and girls of the danger of alcohol, nicotine and other habit forming drugs.
3. Make blackboard list of causes and prevention of constipation. Work out score card for checking up on habits pertaining to elimination of body waste.
4. Have students make careful examination of each others' teeth and tonsils.

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*See Chapter V for outline on care of the teeth.

5. Individual reports on the bodily effects produced by (1) fatigue, (2) anger, (3) fear, (4) hunger.

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CHAPTER XII

SPEECH DEFECTS

"Of the degree in which a society is civilized the vocal form, the vocal tone, the personal, social accent and sound of its intercourse, have always been held to give direct reflection. . . . Judged in this light it must be frankly said our civilization remains strikingly unachieved."—HENRY JAMES.

"It would be difficult to find any group of people more neglected by medicine and pedagogy than that of stutterers and lispers. The stuttering children that encumber the schools are a source of merriment to their comrades, a torment to themselves, and an irritating distraction to the teacher. As they grow older, the stutterers suffer torture and setbacks that only dauntlessness or desperation enable them to survive. The lispers that are so numerous in certain schools are a needless retardation to the classes." From: "Stuttering and Lisping."—E. W. SCRIPTURE.

Speech defects in America. With half a million of our school children handicapped by speech defects and a large per cent of the remaining twenty-two million expressing themselves with uncouth voices, it is time that all parents and teachers joined the good speech movement, with the three-fold purpose of correcting and preventing speech defects and guarding "the dignity of our tongue." For lack of space this discussion must content itself with a brief outline of the first two purposes, namely, correction and prevention of speech defects. It must limit itself further to the child who has one or more of the less complicated speech defects. Scripture, our American authority on speech defects, warns us that it is quite important "to distinguish between the disease called stuttering, and repetition often called stuttering, which is found in certain other diseases, such as hysteria, multiple tics, injuries to the brain, etc." This latter group of speech defectives belongs entirely in the hands of skillful medical speech experts.

The most common defects of speech found among the otherwise normal group of children are stuttering and lisping. The former is more likely to develop before second dentition and again during puberty, while the latter is more prevalent in the kindergarten and primary grades, and decreases rapidly in the higher grades.

Speech correction. The approach to the study of all speech defects should be with the realization that "speech defects are more psychological than physiological." Many mental abnormalities express themselves by certain speech peculiarities, and speech defects of the normal group are more often from some mental twist than from an actual defect of one or more of the special organs of speech, as a cleft palate, hair-lip, or tongue-tie. "Good speech," says Professor Latham, "like good posture, comes from within." Therefore, teachers and parents can do much toward helping speech defects. (1) They can help to develop an appreciation of good speech, (2) They can cultivate a "feeling" for correct speech. (3) They can help build up confidence in the child in his ability to speak correctly. The last is particularly necessary in correcting stuttering, for after the child develops the stuttering habit, he stutters because he fears that he will stutter.

There are a number of ways whereby our speech defects may receive attention but the first need is for speech specialists. These specialists should be physicians who have had thorough training in diagnosis of these defects. The second need is for trained teachers of speech to help carry on the corrective campaign. The latter should assist in a broader educational program for prevention of speech handicaps. Progressive European countries have already realized the need of an educational program for better speech. In most of the countries grade teachers are given special speech training and various methods of helping the defectives are in use. The corrective measures are used in special classes during school hours, in after school classes, and in the special schools for speech defectives during the regular session and during vacation. The special schools for this group of handicapped children are probably the most successful means of helping them. These are invariably outdoor or country schools, where the children are taught to play to a purpose, and to readjust themselves to better health and speech habits without fear of the ridicule of the normal child.

Stuttering. Few people realize what a tragedy stuttering presents. It is a serious handicap vocationally, professionally and socially. Stuttering immigrants are frequently refused admission to America because they are liable to become public charges. However, the economic aspect of the stutterer is not the most important

consideration. The majority of this group is doomed to suffer rebuke, ridicule and an embarrassed, fearful repression that invariably crushes out every channel of self-expression that might lead to happiness.

Some stutterers repeat initial letters, others repeat introductory words or sounds, as "why," "well," "er." With a stutterer there is always the fear that he will stutter, and always cramps and spasms of the muscles connected with speech whenever he begins to speak. This "over-tension" again proves the accepted fact that speech defects are "more psychological than physiological," because this tenseness does not occur until the stutterer intends to speak.

There are a number of direct or predisposing causes of stuttering. They are, in the order of their frequency, nervous shock, where there is intense fear; imitation; heredity; nervous exhaustion after illness; pedagogical or parental maltreatment, as scolding, nagging, or unreasonable demands with severe punishment in the background; and probably an interference with normal left handedness.

The proportion of stutterers is higher among boys than among girls. Scripture places the ratio from 2:1 to 9:1.* This is attributed to various reasons by different authorities. In the opinion of the writer the cause lies between the calmer life led by the girl, and the girl's probable superiority in use of the muscles for finer coordination. Some authorities lay much of the blame for the larger number of stutterers among boys to paternal sternness with boys.

Wherever it is possible the stutterer should have the advantage of diagnosis and treatment by a specialist, but America has so few specialists that, unless it is possible for the stutterer to be given this individual attention,† the writer advises the use of the methods outlined in "Stuttering and Lisping," by Scripture.* A careful avoidance of all the beautiful-sounding, widely advertised quack treatments is advised. To give an idea of the thoroughness of scientific treatment the following views are some of those presented in detail by Scripture:

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*Scripture, E. W. "Stuttering, Lisping," The Macmillan Company, New York. Used by permission of the publishers.

†Columbia University, and The Vanderbilt Clinic, in New York City give special treatment for speech defects.

(1) Thorough physical and mental examination.

(2) Look after patient's bodily and mental health. (The stutterer is frequently suffering from nervous exhaustion, and is always fear-ridden).

(3) Teach the patient "the principle of relaxation."

(4) Apply "the principle of a new method of speaking." (A stutterer can always sing and speak in any form except his normal stuttering form, which is never normal but is rather a monotonous, colorless tone).

(5) Apply "the principle of habit formation." (A stutterer must be drilled in the new way until it becomes a habit and until he loses his fear by repeated successes.)

(6) Develop the "principle of spontaneity."

(7) Develop the principle of "equilibrium" in expression. (Usually patient is extremely retiring or abnormally lively.)

(8) Teach the patient the "principle of correct thinking."

(9) Teach the patient the "principle of correct enunciation."

(10) Train the patient in the "principle of subconscious adjustment."

(11) Train the patient in the belief in the success of the treatment.

To summarize: Train the patient (1) in proper thinking; (2) in healthful physical habits; (3) in relaxation; (4) in melody and flexibility; (5) in correct breathing; (6) in deliberate and smooth speaking; (7) in correct enunciation; (8) in voice quality, as resonance; (9) in self-confidence; (10) in readjustment of himself to his subconscious self and to his environment.

It should be remembered that the child who stutters is invariably a nervous child, whether he shows it to the untrained person or not. Ridicule, nagging, scolding, and severity are not only cruel but unjust. Tact and an understanding sympathy that will give courage to the child are fundamentals in the scientific methods now used with stuttering and lisping. With patient co-operation of specialist and patient, or trained teacher and pupil, stuttering and lisping can both be cured.

Lisping. If lisping is simpler to correct than stuttering it is none the less important. While stuttering represses normal self-expression, lisping misrepresents its defectives. To the world the stutterer is funny, to that same world the lisper is silly, babyish. Lisping is frequently called "baby talk," for, like baby talk, it includes the inability to pronounce certain letters and combinations of letters, and omits, substitutes or slurs over certain sounds. As pure baby talk these characteristics should not persist after the fifth or sixth year, unless the inane baby talk of which adults are so fond persists. Baby talk should never be permitted in the nursery—if it must be used, let the adults try it out on each other!

Persistent lisping may be caused (1) by poor speech environment; (2) by total or partial deafness, (3) by defective perception and execution of sounds, as 'w' for 'r' (negligent lisping); (4) by organic defects (organic lisping) as caused by very high palate when 'sh' is used for 's,' tongue-tie, when 'th' is used for 's,' and other anatomical abnormalities of lips, teeth, tongue, jaws, nasal or pharyngeal cavities; or (5) as result of trauma or apoplexy (word-aphasia) when the patient cannot find the word or sound to express himself. This last is rarely found in childhood or early adult life.

The treatment of lisping consists, (1) in careful examination for and correction of any organic defect; (2) exercises for lips, tongue and jaw; (3) exercises for developing resonance; (4) exercises in enunciating words singly and in combinations; and (5) in speaking slowly and distinctly.

The organs of speech. The body as a whole, and every part of the body, eyes, hands, shoulders, etc. are constantly expressing the personality both while the person is in action and in repose, whether there is vocal sound or not. The special organs of speech consist of the lips, tongue, teeth; of the mouth, nose and throat cavities; of the vocal cords; and of the lungs. Fillebrown compares these special organs to the parts of a musical instrument, adding the tongue as an articulator, "the like of which no other musical instrument possesses." He also emphasizes the importance of resonance in singing and speaking.*

Speech defects among children are not the only speech defects that need correcting. How often does the teacher or parent literally

*Fillebrown, Thomas. "Resonance in Singing and Speaking," Oliver Ditson and Company.

spank her pupils or children, as the case may be, with a flat voice; scold or nag in a whining, complaining voice; or wear out herself and her pupils or her family with a tense, high-pitched voice! The young teacher is invariably exhausted at the end of the day and it is more a matter of lack of training in use of her voice than any other one thing. She not only irritates and drives the children away from her but wastes energy through poor use of one of the greatest of all gifts, the power of vocal expression.

If there are no defects of the organs of speech such as tongue-tie, wide spaced or irregular teeth, a cleft palate, hair-lip, adenoid or bony growths interfering with resonating cavities of mouth, nose and throat that need surgical interference, the following simple exercises corralled from various sources, chiefly from Professor Latham of the Speech Department of Columbia University; from Mrs. Clara Z. Moore of Chautauqua fame; and from the Beauley School of Expressive Arts, will be found most helpful.

Exercises for Special Organs of Speech

1. For general freedom and relaxation.
   Stretch, yawn, make a fuss about it! Relax! Say "Bah!" Relax jaw completely! Turn loose! Let go! Roll eyes, look like a blithering idiot. (More idiotic you look the better the results.)
2. For flexibility of lips.
   Practice vowels before mirror.
3. For freedom of jaw.
   Say "Da, da, da" (The first aimless babbling of a baby; His majesty is not calling his fond "papa" but is simply exercising his jaw.)
4. For nimbleness of tongue.
   The trill of childhood. Put tip of tongue between front upper teeth, blow against it lightly; say 'th,' now trill it! Use the tongue, not the lips.
5. For resonance.
   a. 'Ng' sound as given in phonetics. Speak and sing 'ng' placed by the tongue in nasal cavities—must be clear. Practice on words ending in 'ng' as song, throng, Hong-Kong.

b. 'M' as above. Open mouth while holding tone. If it is clear there will be no sound from the lips as 'ma.' If the student gives the 'ma' sound she is using the lips and jaw, not the nasal resonating chambers.

6. For deep breathing.
Place hands on intercostal region—(one on each side of lower chest wall)—round lips and blow a nice round clear oo oo, until the lungs are virtually emptied—close mouth and inhale gently as if smelling favorite flower. What happens underneath hands? Yes, the rib cage is expanded. (To breathe correctly you must breathe big and deep, thick and round, "East and West, not North and South."

7. For breath control.
Inhale deeply, but easily as if smelling a flower, count to ten audibly, holding rib cage out, relax! Repeat.

Notes: Remember:

(1) An attractive speaking voice is the best index of culture.

(2) Train yourself to hear your own voice. Listen to voices around you, work for the best qualities and try to eliminate the worst.

(3) Practice in playful mood. If the exercise is not successful today, tomorrow is coming—why worry! Nature works slowly, give her time. Play at it with a smile, and the most difficult exercise will almost do itself.

(4) Remember 'words are things.'
"Speak the speech, I pray you, as I pronounced it to you, trippingly on the tongue; but if you mouth it, as many players do, I had as lief the town crier had spoken my lines." Hamlet, Act III, Scene II.

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CHAPTER XIII

SEX EDUCATION

"Young people must glow and tingle and have excitement, and if they cannot obtain this normally in intellectual, aesthetic, and motor ways, they are prone to have their calentures in the sensuous field."—G. STANLEY HALL.

The problem of sex education. In the sex problem we must first realize that ignorance is rarely innocence. From the earliest questioning age of the child with its "Where did I come from?", the why and how of his beginning is constantly confronting and interesting him. He is never satisfied until his perfectly natural curiosity about the truth of life is answered. Unfortunately parents and teachers have not been educated to meet their responsibility in this direction. Therefore thousands of children are having their normal interest in this subject satiated or abnormally stimulated from ignorant, often lewd, sources, wherein half-truths, superstitions, and gross immorality are mixed.

With instruction in the sacred awe-inspiring fact of birth and the instincts that beget life in the hands of chance, there is little wonder that the lack of truth or the all too frequent shocks given to the sensitive, plastic minds and bodies of the young child cause frequent abnormal repressions and responses, little wonder that many adolescent boys and girls are careless, thoughtless in their sex-social relationships, and in their blind ignorance of the true reasons for their emotional and physical promptings, and do things that they can never forget, never cease to regret, never entirely overcome.

The scope of sex education. Sex instruction is frequently limited to sex hygiene alone—that is, to sexual processes as related to health. This is prone to over-emphasize the physical side of life and to encourage morbid introspection. Dr. Bigelow amply defines the scope of training needed when he says, "Sex-Education in its largest sense includes all scientific, ethical, social, and religious in-

struction and influence which directly and indirectly may help young people prepare to solve for themselves the problems of sex that inevitably come in some form into the life of every normal human individual." * The following outline from his authoritative and wholesome book, "Sex-Education," * gives the different phases of the work:

In the broadest outlook, sex-education (or sex-instruction) includes:	sex-hygiene (personal, social)	for sexual health
	biology (including physiology) of reproduction	for attitude regarding sex, and for important scientific facts
	heredity and eugenics	for sexual conduct leading to race improvement
	ethics and sociology of sex	for sexual conduct
	psychology of sex	for sexual health and conduct
	aesthetics of sex	for attitude

Who is to accept the responsibility of sex instruction? The ideal place for sex instruction is in the home where there are devoted parents, more than one child, and pets. But few parents inform their children about the source of their origin or of the reason of their functional development. Sometimes, it is because they are untrained in methods, unfamiliar with the necessary facts, sometimes it is timidity or false modesty. Teachers, too, have hesitated for the same reasons. With the frank attitude of today toward life's problems, the ever-widening field of scientific references suited to the layman and the well planned methods of approach, it is not the difficult problem that it has been here-to-fore. However, in spite of this general advance in sex information the burden of the task must be accepted by the school, for there are still many parents who are ignorant, many who are thoughtless; and, too, there are many children who are without parents. Some few educational and charitable institutions, and some individual teachers have already accepted the responsibility, others will fall in line as

*Courtesy of The Macmillan Company, New York, pp. 1, 4.

they, too, see this service to humanity as one of the keynotes to American idealism.*

Teachers for sex instruction. The greatest need of sex-education is for efficient teachers. All teachers are not fitted to accept the responsibility. The U. S. Public Health Service Bulletin, "The Problem of Sex Education in Schools," † summarizes the specific qualifications of teachers for this work as follows: "This task is for a few teachers only and in a few subjects only. These few teachers must meet many requirements. They must have an accurate and scientific knowledge of the facts to be imparted, and a thorough understanding of the pedagogy or method of treatment. There are other personal requirements also. Such teachers must have a wholesome attitude toward sex. They must not be soured or pessimistic through personal misfortune nor can they be trusted if they have their main interest in the abnormal, pathological aspects of sex, or exhibit a conspicuous emotional excitement in discussing it. A teacher with a flippant attitude or with a doubtful personal probity is impossible. Some people have become very much absorbed in the newer psychopathology of sex life and without adequate background in theory or experience entertain quite radical views as to the psychological dangers of repressing sex feelings. Such persons would not make proper teachers. An ever present danger is that teachers with missionary zeal will introduce the subject in their classes without proper text books or without getting counsel from experts in the field. Authorization from the school principal should be obtained."

Methods of sex instruction.‡ The nature-study approach is the easiest and most natural approach for sex instruction. Children who are taught to love and appreciate nature, to be kind to their pets, and whose questions are answered frankly and simply come to know the facts concerning animal and human reproduction quite naturally and with the feeling of deepest reverence. With nature study a regular part of grade curricula, sex instruction can

*Mothercraft Training a National Need," by Kathleen Wilkinson Wootten, (1919) Bulletin Extension Division, Georgia State College for Women, Milledgeville, Ga.

†Now out of print.

‡Natural inclusions of appropriate subject matter, integrated into the course, are now being proposed in the revision of Nature Study made by the Committee on Nature Study of the National Education Association.

be successfully given in school if it is in the hands of a trained and understanding teacher. The socialized recitation of today is a good basis for developing a feeling for the interdependence of human life, and when an opportunity for direct instruction comes in agriculture, biology, physiology, hygiene, nature study, general science, home economics, the social sciences or English literature, if it is dealt with as a matter-of-fact part of the lesson the children will accept it in like manner. It has been repeatedly proved that anything which can be taught to a child relative to sex before he is ten years old is just so much ground gained, for the subject can then be discussed with utmost frankness and without self-consciousness on the part of the child, unless the instructor, parent or teacher, betrays self-consciousness, timidity or shame.

Direct sex instruction as a specific class room subject is seldom advisable; its various phases are better integrated as a natural part of other subject material.* However, there are some forms of wholesome instruction along this line that are very effective. "The Little Mothers' Club" for the girls of the sixth grade is an example of this. The class instruction in this should include only the physical care of the infant and small child, which would emphasize the bath, clothing, food, fresh air, sleep, and a few suggestions on habit training. Should further questions arise, personal conferences are the best solution.

An advanced course in mothercraft, including pre-natal care, infant care, pre-school care, might be given in high school, either in connection with biology, domestic art or domestic science, or as a distinct course, if a competent teacher can be procured. This course like any other should not be given unless the teacher knows her subject, and also knows how to give it simply, frankly, yet beautifully. The adolescent girl is a sensitive person, usually of highly romantic, idealistic tendencies, and it is her right to hear the most sacred lessons of life in a wholesome, inspirational way. A crude, unrefined person can shock her finer sensibilities so that she may never entirely recover from it.

Special sex training for boys can be worked up in regular classes, in the form of terse, straight-from-the-shoulder talks, or to small groups or to individuals after school hours. If possible boys should

*See "Sex and Social Health," Galloway, Chapters 10, 13 and 17.

Senior Normal Student Demonstrating Baby's Bath Before "Little Mothers' Club"

be instructed by men, and girls by women, always in separate classes. If special courses are not deemed wise, after-school conferences with individuals or small groups of boys and girls, will frequently come of themselves out of their frank interest in the subject. With the right man in charge of the boys, and the right woman in charge of the girls, earnest and wholesome responses may be expected.

> "Hitherto, the development of our race has been unconscious, and we have been allowed no responsibility for its right course. Now, in the fullness of time, we are treated as children no more, and the conscious fashioning of the human race is given into our hands. Let us put away childish things, stand up with open eyes, and face our responsibilities."—*Whetham.*

Limited space precludes the discussion in this chapter of concrete methods which have proved successful. The teacher is strongly advised to write to the American Social Hygiene Association at 370 Seventh Avenue, New York City, for help and advice for her individual problems as well as for pamphlets covering different phases of sex hygiene.

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CHAPTER XIV

METHODS IN HEALTH EDUCATION

"It must be kept in mind in considering methods that knowledge is not the most fundamental thing aimed at; but rather social attitudes and values."—Dr. Franklin Bobbitt.

"Instruction is good and it is easy; training is better, but it is difficult. The past decade has been a period of talk about school hygiene; the next decade should be one of training in school hygiene."—Dr. W. H. Burnham.

General discussion. The best methods in health education like the best methods in any field of education are founded on sound psychological principles. While space will not permit a conclusive treatment of psychology as it may be applied by "methodology" to health education, it is hoped that the discussion given may lead its readers into a deeper study of the closely related physiological and psychological needs of childhood.

Health education is a comparatively new subject in our curriculum and has been sponsored by progressive educators, therefore some good methods have been used from the beginning. However, in spite of this, there has been a lot of exceedingly poor teaching of health. This has been due in the main to the remarkably rapid popularization of the subject. Great enthusiasm for health education has been aroused among teachers, nurses, and other health workers without giving them a thorough background of scientific information and careful personal training in habits of healthful living, also without giving adequate training in selection of material suitable for the grades, or in practice of scientific method. Again the insistent demand from all sides for health material has been answered by a mushroom growth of so-called health literature. While there have been some real contributions, many silly stories, poorly organized texts, senseless devices and inane projects have been broadcasted. But, in place of undue criticism of errors made both in material and methods, which should be expected in any new field of work, the thoughtful person should accept the amazing fact that the publicity given health in recent years has accomplished a

stupendous task—namely, awakened a sleeping world to the realization that child health is of fundamental importance.

The pioneers in health education and the recent converts to the idea of health education have every reason to feel enthusiastic over its future. Scientific training of health teachers is being widely stressed, well organized and carefully tested courses of study are being developed in many places, excellent health texts, interesting supplementary readers, tested devices and vital project-problems are pouring from the press. Patience and a little more diligence in weeding out the chaff will soon place health education in the unchallenged position it deserves. The short time that it has taken to do this will continue to amaze the old line of educators whose chief task has been the teaching of facts unrelated to the life of the student but previously considered vital because they were required to meet college entrance requirements or were required for certain degrees.

The application of modern methods in health education. The study of scientific method reveals two basic facts upon which the technique of modern method is founded: (1) the educational significance of the child's environment; and (2) the rich opportunity for the education of the child by use of his natural or hereditary endowment—his sensory-motor equipment, his instinctive tendencies, his ability. Every contact of the child is an educational experience, therefore, much of the child's education will be received outside of school. The inference to be drawn from this by health educators is that health education programs must include educational advantages for the parents and for the community at large. To do this they must strive to make of "Every School a Community Health Center." The parent-teacher association and other community organizations are invaluable channels for awakening local interest in the many problems of the community. Class-room procedure should also be so correlated and socialized that the child actually lives a real, complete, and healthful life at school. Content and method must join in inspiring the child to adopt an healthful attitude that will function out of school as well as in school.

The second basic fact revealed in a study of the technique of modern method is the wide use of the equipment the child brings to school with him, namely, his marvelous sensory-motor equipment, his instinctive tendencies and his ability. The instinctive tendencies

include imitation, construction, play. dramatization, rhythm, acquisitiveness, and curiosity. A child's ability may be considered in two ways, first his general ability level which for convenience might be graded high, medium, or low; second, his specific ability (talent).

Sense training means healthful motor-activity, self-activity, self-expression. The motivation of subject matter by the use of the instinctive tendencies means putting education in terms of child life. The careful study and stimulation of a child according to his native ability means that the chance for the success of each child is multiplied indefinitely. Some complain that this use of nature's ways of educating the race makes learning easy, joyous. It does, but why not? Is the school life of a child merely a stern preparation for life or is it a part of life—probably the richest part of all of it?

In connection with the above suggestions for good psychology and pedagogy in health education, the teacher should remember that she is teaching a child, not a text, and that every course of study must be sufficiently flexible to meet the needs of each child in the particular group with which she is working; second, the tendency for more freedom and activity of the child during school hours should be constantly encouraged by health education programs because the artificial and repressive atmosphere of the average classroom is stifling to every natural impulse of the child. The usual fixed school units (desks and seats screwed to the floor) work against freedom and normal activity of the child and also against the development of the socialized recitation. Until these fixed units can be broken up, every means should be used to counteract their dwarfing influence.*

Sense training in health education. The order of the application of sense training to modern methods is summarized as follows by Dr. M. M. Parks, "Children learn first by doing, second by seeing, third by hearing." The value of the educational idea may be proved (1) by giving any student an opportunity for some form of activity that will correlate with the idea to be studied, (2) by giving him a visual stimulus as a guide, and (3) by letting him alone unless he is at an utter loss as to how to begin, in which case a few suggestions should be given. After the idea is worked out in various simple forms by the group or by individual students, each student is invariably eager to hear more about the subject from the teacher, or

* See Relief Drills, Chapter VI.

better still he is ready to make further investigation for himself and to share his findings in a written or oral report.

The visualization of health education. The eyes make an excellent example of the educational value of the sense organs. The normal child has eyes, the ability to see, before he comes to school but it is the business of the teachers to see that he learns "to see to a purpose," that he gets from his subject matter a percept—a sensation with a meaning.

In applying the above principle to the problem of health education it should be remembered that abstract health principles are not interesting to children. But when the health idea, ideal or principle is effectively visualized it immediately piques the child's curiosity, arouses his interest, and fires his imagination. The visualization may be in any one of many forms—a picture, a chart, an object, a model, a lantern (stereopticon) slide, a film, a poem, a song, a story or play, a demonstration, a survey of actual environment, anything he can see with his mind's eye. Since visualization by word will be discussed in the health story, this discussion will center around the blackboard drawing and posters. A simple example of the use of a blackboard drawing is the construction drawing of the house of a Good American to which each child is allowed to offer a good health brick—clean hands, milk, sleep, etc. In contrast with this the tumble down house of a careless American may be made of bad health bricks—tea, coffee, dirty hands, etc. Other ideas for blackboard lessons for primary grades include the chain of health, the tree of health, the ladder of health. The use of the blackboard is invaluable in all health work. Blaisdell's little volume, "How to Teach Physiology"* gives excellent suggestions for the drawing of parts of the body. Its use for the development of study and summary outlines or for sketching various ideas or models is limitless.

Next to the blackboard comes the poster. A good example of the latter is a poster on fresh air made with a picture of children playing out of doors, or in a room with windows open, or a poster with groups of food showing correct and incorrect menus. The pictures of these posters may be cut from magazines or they may be elaborate drawings, or water colors. They may be made by teacher

*Blaisdell, A. F. "How to Teach Physiology." Ginn & Co.

or pupils or may be bought or borrowed. Student activity is, of course, the best.

A demonstration or experiment also makes effective visual stimulus, for example, an unwashed apple from the corner grocer, rubbed with a clean cloth demonstrates the presence of visible dirt and gives an excellent approach for discussion of dangerous unseen dirt (germs). Again, a model, as a fly-trap or anatomy model, will vitalize the bone-dry text on any hygiene or physiology lesson. Excellent lantern slides and motion pictures are also available.

The educational slide, long accepted as an effective method for teaching history and geography, is now available for health work. The health motion picture reel, with almost limitless possibilities for visualizing health principles and health habits, has also come into its own.*

Self-activity in health education. With the interest of the child aroused by any one of the many visual stimuli so easily found, his natural reaction is to wish to express the idea presented in some form. The teacher should encourage and plan for an opportunity for self-expression both in conversation and activity.

There are many forms of activity that appeal to children of different ages and most of these can be guided by a teacher of average intelligence and training, if she catches the vision of its need. The perfection of a product is not necessary for the child's growth. It is the actual working out of the idea by the child himself that counts. While each child should be encouraged to do his best, no matter how crude the effort, the product should not be ridiculed. The teacher may make some suggestion that will improve it, if the child seems to be lost or aimless in his design or work.

Some of the easiest problems for health activities are the health poster, health booklet, or wall frieze. Usually all that is needed is a suggestion and the children will be ready with innumerable ideas. Picture cut-outs from old magazines (the tactful teacher will remember if she is requiring pictures brought from home that some children do not have magazines at home and that a few magazines in reserve on her desk will answer this need,) cut paper designs, and cut lettering may be used. Paper cutting and folding, cardboard box furniture, will also interest the primary grades. For the higher

*For services of health charts, panels, posters and films, see appendix.

grades such problems as drinking cup cabinets, lunch cabinets, first aid cabinets, fly-traps, and playground equipment make splendid manual training correlations; hygienic layette, household linens, etc., offer interesting activity for domestic art classes; a day's dietary for baby, child, athlete, make fascinating problems for domestic science classes. This will again bring out the health slogan "To learn is to do." The interest will be stimulated further among children if the problems used in classroom are put on exhibit in show windows, health centers or fairs. These exhibits will also help to arouse adult co-operation.

The spoken message in health education. The third principle of learning by sense training is through the hearing. In using hearing as a method in health education it is well to realize from the beginning that merely talking about health is seldom of itself effective. A lecture on health may interest an entire audience for the length of the lecture, but unless the field is ripe for the lecture, the content of the lecture particularly practical, splendidly illustrated, or the lecturer possesses an unusual personality, it is the rare convert who puts information thus given into practice. The lecture method is more or less effective with upper classes, particularly college and university classes, but so far as using it in the grades is concerned, it invariably goes in one ear and out the other. However, occasional short talks decidedly to the point, followed by skillful questioning, may be successfully employed by the teacher of lower grades.

The most effective health teaching through the ears is when the children are allowed to talk. Children should be encouraged to give suggestions for a blackboard lesson or work up talks on special subjects. The story should be mentioned here as an excellent method for oral teaching, but the result is so completely visualized, if it is well told, that the child is literally seeing through his ears. After all, in taking up the educational use of seeing, doing, and hearing it must not be forgotten that the child may often learn through all three of these channels at one time.

The use of the instinctive tendencies in health education. The use of the instinctive tendencies—imitation, construction, play, dramatization, rhythm, acquisitiveness and curiosity, has been found to be nothing short of dynamic in educational processes when carefully guided.

"The play way" and the "project method" are terms applied by

educators to the combined use of the child's environment and his natural endowment to awaken or develop an "inner urge" on the part of the child for "purposeful activity." Such pupil activities as the ones detailed in many volumes on this method are unifying the old crystalized "subject" curriculum by correlating all of the important subjects of the curriculum into one vital whole with the selection, organization and use of subject matter "translated into life terms." This use of content fulfills Dewey's challenge: "The business of the educator whether parent or teacher—is to see to it that the greatest number of ideas acquired by children and youth are acquired in such a vital way that they become moving ideas, motive forces in the guidance of conduct." *

In the organization and use of this subject matter, the child should be given freedom to express himself in some form of purposeful activity. For as Wells says, "It is just as important for the education of children that they should themselves organize their thinking and their material in solving actual problems and projects as it is for adults to think and plan for themselves if they would live and grow in their work." † The final goal of the curriculum, methods, —all the subheads of education when applied to health education, should be to develop the individual along ways of social efficiency until he, at last, is "socially fit," that is, naturally adjusted to a democratic group, which he has helped and will continue to serve honestly, healthfully, and happily.

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CHAPTER XV

DEVICES FOR THE DEVELOPMENT OF HEALTH HABITS

"The end to be aimed at in the new education in health is not only *information,* but *action;* not simple *knowledge* of what things are desirable but rather the *habitual practice* of the rules of healthy living." *

The goal of health education. The purpose of health education is the training of the child in healthful behavior, therefore, the formation of certain specific health habits must be placed above mere knowledge of facts concerning health. These habits may be grouped in the following manner: first, the formation of personal health habits; second, the development of a civic consciousness; and third, personal adjustments in the home and in society.

The value of the unconscious practice of good health habits is self-evident. Habit is acquired. It comes from constant repetition of the same act until that act can be performed without conscious effort. The daily routine of our life in which the simplest acts are performed over and over until we do them without a thought saves our time and effort for the meeting of new and ever changing situations. The same should be true of our health habits.

"Make health habits automatic in youth" was the excellent slogan sent out by the Bureau of Education in 1919. If parents, nurse maids, teachers, everyone who has a part in the training of the infant, the young child or the adolescent, could only grasp the significance of this slogan most of the mal-adjustments and failures of life would be eliminated. For as the psychologists warn us habits fix themselves like plaster casts on the nervous system and nothing short of a shock or a personal revolution may break them after adult life is reached.

Motivating health habits. "Health for health's sake" has been proven an ineffective motive for the formation of health habits.

* Teaching Health—Lucy Oppen. U. S. Bureau of Education, Health Education Series No. 4.

It is interesting to note here that most motives that have been found successful in stimulating the formation of health habits have had pleasure connected with them. This "law of effect," so called by Dr. Thorndike because pleasure associated with an activity leads to repetition of the act, while displeasure decreases the tendency to repeat the act, is the foundation upon which most habits are built. The wise health teacher uses this law constantly. For example, take a carefully organized tooth brush drill. The children may be presented with sample tubes of tooth paste. This gives four-fold pleasure, (1) ownership of the little individual tube of paste, and (2) a pleasant clean taste in the mouth after its use, (3) there is the pleasure of some award for regularity of practice, and (4) pride in personal appearance. On the favored list of motives for the formation of health habits are personal pride, to please the teacher, class pride, chivalry, athletics, membership in an organization, a good record, and awards. After any of these stimulating motives is given the next problem is exercising the habit by interesting devices for practice.

Devices in health education. A word of warning concerning devices in health education is not amiss, for the device in health education like the device in any subject must have standards. It must have a meaning to the child. The skilfull teacher is always careful to keep this meaning before the child for there is the danger, even with a well chosen device, that the children will get so interested in the device itself that they will forget the real purpose of it. Some of the most successful health devices are daily morning health inspection, health calendars, health stories, health dramatization, health rhymes, health creeds, health songs, health posters, health booklets, monthly reports, awards (pins and badges), pageants, health exhibits, health surveys, health reports, correlations with other vital interests, as a place on the team, etc.

Awards for formation of health habits. The first and also the most complete program given for the motivation of health habits, by records and awards, was inaugurated by the National Tuberculosis Association. It was in 1917 that this organization first published its circular, "Record of Health Chores of the Modern Health Crusade." The chores of the Health Crusade represent certain hygienic duties to be performed by the children who on entering the contest become

"Modern Health Crusaders." The Crusaders earn successively the titles of squire, knight, knight banneret, and knight banneret constant through the faithful performance of the health chores, which are checked each day on the chore record. This program is now prescribed in the course of study in many states and is particularly effective in launching health work among children, for it is built on sound psychological principles.*

There are many awards offered for good health habits, notable among these are the good posture pins from the American Posture League,† and the athletic badges for girls and boys from the Playground and Recreation Association.‡ Details of the athletic badge contests will be found in the booklets, "Athletic Badge Tests for Boys," and "Athletic Badge Tests for Girls," issued by that organization. Information concerning the good posture pins will be found in chapter X of this book. All of the above materials and methods have been used and found helpful in our practice school.

In the practice school the first grade children play the health game with the Good Health Family, having humane education as a central motive, and their award is a "Band of Mercy Pin": the second grade children play the game of health with their interest on the ideal of being a "Good American" and receive flag pins; the third grade health interests center around "Safety First," and the children receive Safety Scout pins; the fourth, fifth, and sixth grades have different interests but their personal health habits are vitalized by the Modern Health Crusade badges. Beginning with the fourth grade, posture pins are used to add zest to the posture work. Beginning with the sixth grade the athletic badge contests are added.

Morning inspection as a means for checking health habits. In playing the health game with primary children, morning inspection may be used most successfully. At the beginning of the year it is probably best to have the teacher make this inspection for clean faces, necks, ears, hands, short clean finger nails, clean teeth and head, well combed and brushed hair, neat clothes and shoes; later student monitors may be used. A report on such home duties as full bath, sleeping with windows open and daily bowel movement is made also

* For further details write the National Tuberculosis Assn., 370 7th Ave., New York City.
† 1 Madison Ave., New York City.
‡ 315 Fourth Ave., New York City.

and checked. Each child makes his own calendar, and each day that his score is perfect he receives a gold or silver star. While the definite purpose of the health calendar is to record the child's progress in the formation of certain specific health habits, its construction gives the child opportunity for valuable self-activity: the selection of a suitable picture develops the power of discrimination, the cutting out and mounting of the picture gives training in precision, accuracy, artistic feeling; the making of the calendar itself gives training in use of the ruler, teaches numbers, days of week, and months of year. The completed calendar represents the child's efforts. His satisfaction is expressed not only in "I made it" but "See how many stars I have," every star meaning that he was perfect at morning inspection.

The checking of health habits should be varied to prevent monotony. A class room honor roll, a frieze made of individual posters, the good health fairy house, the ladder of health, and other devices make interesting changes from the calendar.

Morning inspection has already been mentioned as an invaluable method for locating symptoms of disease among children that would warrant their exclusion from school or warrant their being sent to the school doctor or nurse. It should be continued in some form throughout the elementary schools at least. The intermediate grades may be checked by the Crusade score cards, junior and senior high school classes may be interested in the health diary or health score cards modeled after the one used by Benjamin Franklin.

Teachers of health should remember that it is just as important to encourage good health habits among the adolescents as among primary grade children. The writer has found that the first six or eight weeks of each school year may be well spent in reckoning the health habits of each grade and any day of the school year that a weakness in the defense line of good health habits is noted the class or individual needing stimulation should be given special attention for the specific habit noted.

Opportunity for the practice of as many health habits at school as possible should be given, class and individual records kept, and grading at first by teacher and later by monitors, should keep the program up to standard. Talk about the need for developing the clean hand habit may babble on forever without good results unless

there are adequate facilities for bathing hands at school. This is true also of other important habits.

The health diary. Before the subject of health habits is taken up in class the teacher will do well to check her own personal habits, for quite often health like character, "is caught, not taught." Neatness, good posture, clean teeth, and other good health habits are more often inspired by example than by precept.

The diary form for developing individual health habits as outlined by Dr. Andress in his text, "Health Education in Rural Schools" has become a regular and important part of the health work in our teacher training classes. The young women have as a whole taken great interest and pride in the formation of their good health habits and have not only helped themselves by the practice of good habits but have also developed a more sympathetic attitude toward their future pupils through their own experience. The writer usually assigns a number of psychology references on habit which are used for class discussion. This list always includes study of the four maxims on habit by James, which are copied in note books.

1. "Launch yourself with as strong and decided an initiative as possible."
2. "Never suffer an exception to occur until the new habit is securely rooted in your life."
3. "Seize the very first possible opportunity to act on every resolution you make, and on every emotional prompting you may experience in the direction of the habits you aspire to gain."
4. "Keep the faculty of effort alive in you by a little gratuitous exercise every day."

This method of fixing a health habit may be used successfully in the junior and senior high school, also, if an understanding study of habits is made before it is begun.

The student should be allowed to choose his own habit from a list of suitable and discussed habits and should be given an outline for procedure in working it out. The following habits have been most successfully handled by the writer's college classes and also by pupils of high school classes in the practice school:

I. Habit of brushing teeth.*

II. Habit of good posture.
1. Sitting.
2. Standing.
3. Walking.
4. Stair climbing and hill climbing.
5. Lifting, bending, stooping, and all other activities, as well as in repose.

III. Habit of drinking water† (cool, not cold.) 6 glasses per day.
1. Before breakfast—1 glass.
2. Breakfast—1 glass.
3. Mid-morning—1 glass.
4. Luncheon—1 glass.
5. Mid-afternoon—1 glass.
6. Dinner—1 glass.

IV. Habit of good elimination.
1. Choose convenient hour and go to toilet regularly.
2. Concentrate on elimination.
3. Drink at least six glasses of water daily.
4. Eat slowly, masticate thoroughly.
5. Eat some raw and bulky food every day.
6. Take some vigorous physical exercise every day.

V. Habit of promptness—"on time, all the time."
1. Plan to be on time.
2. Start to get ready on time.
3. Avoid non-essential pitfalls.

VI. Habit of cheerfulness.
1. Think cheerful thoughts.
2. Cultivate cheerful people.
3. Smile even though it hurts.
4. Speak cheerily.
5. Cultivate a sense of humor.

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* See page 201.

† If the habit of drinking water is to be emphasized with younger children, four glasses a day is sufficient if milk quota is added.

Other habits that have received marked attention have been worrying, irritability, uncontrolled anger, daily exercise indoors and outdoors.

The following extract from the diary of one of Dr. Andress' pupils illustrates the difficulty of forming a habit.

*"On November 20, 1916, I decided to form the habit of brushing my teeth five times a day. I selected this habit because of the serious condition of my teeth. I decided to carry on the operation as follows:

1. Before breakfast.†
2. After breakfast.
3. After lunch.
4. After dinner.
5. Before going to bed.

"I began my practice November 21, 1916.

"On Nov. 21, I carried out my practice very successfully, not having one error. This was probably due to the fact that the habit was fresh in my memory.

"On Nov. 22, I had two errors due to forgetfulness.

"On Nov. 23, there were four errors. Practice was omitted each time except in the morning. It seemed as if I was slowly climbing the ladder of errors instead of success.

"On Nov. 24, I determined on this day to omit no practice, but contrary to my determination I discovered at the close of the day I had made one error. This was due to the fact that I had attended a theater party and was very tired when I returned.

"Nov. 25. To my regret, on Nov. 25th I omitted the practice entirely. I arose at a late hour this morning and in my hurry I forgot the habit, but why I neglected it the rest of the day I am unable to explain.

"Nov. 26. I found it was very hard to return again to the habit, and it was at this time I realized the value of the caution, 'Allow no exceptions to occur.' I struggled through the day with four errors.

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*From Chapter III, "Health Education in Rural Schools," used by courtesy of Dr. J. Mace Andress and Houghton Mifflin Company.

†Note: See outline on teeth in Chapter V, (Brushing teeth three times a day is quite sufficient, our best dentists say that too much brushing with stiff brush is positively injurious.)

"Nov. 27. This day I gradually climbed the ladder to success. There was only one error.

"Nov. 28. This was certainly a banner day for me—no errors.

"Nov. 29. As good as my record for the previous day, my record was bad, for I neglected all practice.

"Nov. 30. It seemed as if the Thanksgiving spirit had banished all idea of practice, for I had five more errors to add to my list.

"Dec. 1. I returned from vacation with a renewed determination to practice faithfully; nevertheless, I had three more errors at the close of the day.

"Dec. 2. Two errors—after lunch and dinner.

"Dec. 3. I was ill on this day and practiced the habit only once.

"Dec. 4. Two errors.

"Dec. 5. Only one error, but it seemed as if I could never again reach the point of zero.

"Dec. 6. My desire was gratified. No errors.

"Dec. 7, 8, 9, 10, 11, 12, 13, 14. On these days I practiced five times per day. I presume the habit is formed. It took three and a half weeks."

Health drills. Health drills form an important part of the formation of health habits. These are varied and give the needed opportunity for practice of the "precise" habit desired, and also offer the teacher an opportunity to have the habit practiced with satisfaction and success. In the practice of all habits the teacher should see to it that there is a noticeable sensation of pleasure either during practice or immediately after, preferably both, for as Dr. Kilpatrick expresses this psychological principle, "Practice with satisfaction tends to repeat the act."

First among these drills is the toothbrush drill, which may be conducted with the use of the real toothbrush or in pantomime or in mimetic song. The usual form followed is that described in the New York City Course of Hygiene for 1914. Materials:

1. Toothbrushes* brought to school in an envelope.
2. Dentifrice.†

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* The Takamine Corporation, 208 Rawson St., Long Island City, N. Y., manufactures a 5c toothbrush. Quantity lots may be secured $7.00 per gross.

† Sample size packages of toothpaste will invariably be furnished free by any of the large dental cream manufacturers upon request from teacher of grade school who will give number of pupils and signify that she will use them for tooth brush drills.

3. Individual drinking cups (paper preferably) made by the leaders at home, to be half filled with water by monitor.
4. One pitcher of water.
5. One tin basin.

Two or three children, provided with tooth brushes, dentifrice, cups, water and a basin should demonstrate this drill before the class. Every member of the class should follow the leaders in pantomime.*

Attention! (All in line, elbows close to side, with brushes in right hand and cups in left.)

1. Ready—Dip!
2. Outside surfaces.
3. Inside surfaces.
4. Chewing surfaces.
5. Empty cups and refill them.
6. Rinse mouth.
7. Rinse brush (shaking off excess water over basin).

Another important drill is the handkerchief drill. The equipment for this drill consists of a clean handkerchief or substitute (a heavy quality of white paper napkin or clean squares of old cloth). Class practice should include the teaching of the use of the handkerchief to catch the cough, to catch the sneeze, and to blow the nose; to fold the handkerchief so as not to soil hands or clothing and to keep the handkerchief handy. Interest in this may be developed by the story "The Cotton Baby," † and by one of the many poems on coughing and sneezing.

The clean finger nail drill is another interesting drill. One is given below by the courtesy of the Ohio State Department of Education:

1. Teach folding small square of paper into pointed instrument for cleaning fingernails.
2. Demonstrate.
3. Have class stand and clean nails holding soiled paper in right hand when finished.

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* See Chapter V. p. 88.

† See Chapter XIV. "Health Training in Schools," Dansdill, National Tuberculosis Association, New York.

4. Sing:
   "This is the way we clean our nails,
   So early in the morning."
5. Permit two monitors to collect soiled papers in a paper cornucopia, carefully turning the top in and putting it in the waste paper basket.

The relief drill for taking care of excess energy, for giving needed relief from long school hours, and for the development of co-ordination and group co-operation are absolutely essential to the formal school program. Posture drills also should be installed on similar programs. For details of both of these drills see chapters on Posture and Physical Education.

The fire drill. No discussion on drills would be complete without mention of the important fire drill, which should be given at least three or four times a month. These drills are invaluable, not only for safety but for quick co-ordination and self-control.

Topics for Class Discussion and Individual Assignments

1. Habits—mutual influences of body and mind.
2. Habits and our mental life.
3. Habits and our physical life.
4. Will training in formation of habits.
   References: King, "Rational Living," The Macmillan Company, Chapter VI. Other assignments to the psychology shelves of library.
5. Make list of good health habits.
6. Make list of bad health habits.
7. Let each student keep a health diary for a month on results of one or more good health habits.
8. Give small groups the task of developing devices for checking the progress of health habits in one grade or group of grades.

CHAPTER XVI

THE SOCIALIZED RECITATION IN HEALTH EDUCATION; DRAMATIZATION, CLUBS

"Only when we direct the child to make a conscious effort to relate the facts he finds in his studies to some phase of his life which has interest for him, can he feel that they contribute something worthwhile to his life."—IDA C. CARTER.

The socialized recitation defined. The socialized recitation broadly defined is a form of recitation wherein the child is allowed the freedom to live his school work. The chief aim of this redirected instruction is to meet the sociological, psychological and physiological needs of the child. This is done by the centralization of action around the children instead of around the teacher, and by linking up the content of the curriculum with the interest of children. This new form of recitation has a wide range of utility for it develops originality, initiative, self-expression, self-reliance, co-operation, dependability, honor, and service, if it is skilfully guided.

In application the children are allowed to criticize each other. It has been found that often one child is able to teach another child more easily than an older person can, and that he learns through teaching.

Since the socialized recitation is now so universally accepted and since there is such a wide list of books and educational magazines featuring it in its different applications, it will only be noted here that for health work, the newest subject to be formally added to the curriculum, it is a particularly effective mode of instruction. Its application in this discussion will be limited to two well-developed forms of the socialized recitation used in health work. These are the health club or other club organization, directly planned to meet the health needs of the boy or girl, and health dramatics.

Club organizations in health work. Achievement, social development, co-operation, leadership, intelligent obedience, creativeness are the aims of the socialized recitation. That club organization

among the youth of America leads directly to these characteristics has been thoroughly proven by the Boy Scouts, the Girl Scouts, the Camp Fire Girls, the Woodcraft League of America, the Humane Organizations, the Federated Boys and Girls Clubs of our government, the Junior Red Cross, the Health Crusade Movement, the Hunterdon County Health Club, Junior Safety or Civic League, and others. To mention these is but to recall to mind their wholesome programs for education and recreation and to give them a definite place in health education. Some provide, during afternoons and Saturdays, a purposeful, recreational, healthful program of group activities and outdoor play under adequate leadership, as the Boy Scouts, Girl Scouts, Camp Fire Girls, the Eaglets, or Wolf Pack for the young boys (ages 6–12). Some provide for co-operation and competitive individual home work as the corn and pig clubs, girls' sewing and canning clubs, home gardening clubs, while some contribute both the group and individual homework as the Health Crusade. The friendly school club held within school hours is also an effective socializing procedure and offers a good training in citizenship. It will also effectively motivate any idea or ideals for which it is organized. The following excerpts from club work will give anyone not familiar with the practical and idealistic work of clubs an insight into this rich opportunity for serving the youth of today, who is the citizen of tomorrow.

The Boy Scout oath. On my honor I will try to do my best:

I. To do my duty to God, and my country and to obey the Scout Law,

II. To help other people at all times,

III. To keep myself physically strong, mentally awake and morally straight.

The Scout slogan. "Do a good turn daily."

The Scout Law includes the following points:

1. A Scout is trustworthy.
2. A Scout is loyal.
3. A Scout is helpful.
4. A Scout is friendly.
5. A Scout is courteous.
6. A Scout is kind.

7. A Scout is obedient.
8. A Scout is cheerful.
9. A Scout is thrifty.
10. A Scout is brave.
11. A Scout is clean.
12. A Scout is reverent.

Scouting means outdoor life, health, strength, happiness and practical education. It develops the factor of initiative and resourcefulness. Scoutcraft includes instruction in first aid, life saving, tracking, signalling, cycling, nature study, campcraft, woodcraft, chivalry, and all the handicrafts. No expensive equipment is required. All that is needed is the outdoors and a group of boys with a competent leader. By combining wholesome, attractive, outdoor activities with the influence of the Scout Oath and Law, the movement develops character. The Boy Scouts of America, as an organized body, recognizes the religious element in training boys. It is non-sectarian in its attitude.

Supervised recreation. The following quotations summarize the argument for supervised recreation:

> "Important as it is to organize and direct the industry of the world, it is more important to organize the leisure of the world."—*Eliot.*
>
> "Recreation is intensive education, democratic living, training in citizenship. It contributes to health, to happiness, to morality, to civic responsibility."—*Utah Educational Program.*
>
> "Education makes life mean more to the worker only when it has taught him to use his leisure in such a way that the spiritual element in his personality is developed."—*M. W. Keatinge.*

The school should be turned into a community center, by moving pictures, lectures, dramatics, sings, bands, orchestra, concerts, pageants, clubs and sports. Playgrounds should be provided and equipped where play and games for the children are directed by a competent director and where athletics for adults are encouraged.

How to Form a Band of Mercy or Junior Humane Club

After talking it over with teachers and children pass this or a similar resolution:

Resolved, That we will form a Band of Mercy, the title of which shall be ..... Band of Mercy.

Officers:—President, and if desired, Secretary and Treasurer, and also an Executive Committee. Meetings to be held monthly or oftener, evening or afternoon, or as a part of school or Sunday-School service; exercises to be such as the officers shall determine, which may include music, readings, recitations, anecdotes, or addresses, relating to kindness to all, and particularly to dumb creatures, and calculated to impress upon children and all present the wisdom, love and goodness of God in the animal creation, our duty toward them, and the gratitude we should have to God. Get a small book in which to keep the names and addresses of members. Membership books at eight cents each; cards of membership one cent each; imitation gold and silver badges at one and two cents each, and ribbon badges at four and eight cents each.

It costs nothing to form a Band of Mercy; all that is required is this simple pledge:

"I will try to be kind to all living creatures, and try to protect them from cruel usage."

This may be written on a sheet of note paper.

Membership. Any person may become a member of the Band of Mercy by taking the above pledge, publicly or privately. No ceremony or fee of any kind is required.

To each Band or Club, the Society sends, without expense, for one year, a copy of its monthly magazine, Our Dumb Animals, from which selections for readings, recitations, etc., may be taken; also Mr. Angell's "Twelve Lessons on Kindness to Animals;" "Does it Pay"—an account of one Band of Mercy; copy of "Songs of Happy Life;" several special leaflets for the use of teachers, including outlines of study in Humane Education for all the grades in the public schools; eight "Humane Education Leaflets," containing pictures and selected stories and poems; and, for the president, a gilt badge. To obtain these, send the name of band, president and secretary, with post-office addresses, giving the state as well as

town or city, to the office of the society, 180 Longwood Avenue, Boston, Mass.

Other Humane and Nature Study clubs are John Burroughs clubs, Audubon societies and American Society for the Prevention of Cruelty to Animals, Madison Ave., and 26th St., New York City.

The Health Club affords a unique method of inculcating health habits in children. This club should continue six weeks.

The club described below is an example of how to organize a health club.

Cabiness School Health Club (C. S. H. C.)*

A. Purpose: To develop healthy citizens from clean, healthy, cheerful children. (C. S. H. C. being secret, known to members only.)

B. The pupils of each schoolroom may organize themselves into health clubs. Each room may select (every two weeks) its own health officer. The chief health adviser is the teacher.

C. The duties of the health officers may be:
   1. To keep the school room well aired.
   2. To keep the school room clean.
   3. To keep the grounds and outbuildings clean.
   4. To assist with games on the playgrounds.
   5. To assist in making daily inspection.

D. Methods of making daily inspection:
   1. The chief pupil officer asks the questions. Each scores one point who answers "Yes" to a question. The secretary keeps a daily record of points scored by each pupil, room and school, for final record.

E. Daily inspection:
   1. Did you sleep with your windows open last night?
   2. Did you brush your teeth last night and this morning?
   3. Did you wash your face, hands, neck and ears before school?
   4. Are you nails clean?

*Courtesy of Miss Lurline Parker, Health Extension Worker, Georgia State College for Women. Adapted from the Hunterdon (N. J.) Health Club.

5. Did you brush and comb your hair this morning?
6. Did you brush your shoes before leaving home, and clean them on the mat before entering the schoolroom?
7. Did you do without tea and coffee and drink milk yesterday?
8. Did you try to sit, stand, and walk correctly yesterday?
9. Did you use your own towel and drinking cup yesterday?
10. Did you sleep without a pillow last night?
11. Did you drink six glasses of water yesterday?
12. Did you attend promptly to Nature's calls yesterday?
13. Were you cheerful and helpful yesterday?
14. Have you a clean handkerchief?

F. Weekly inspection:

1. Did you take (1, 2, 3) baths last week? (5 points)
2. Did you learn a new game this week? (5 points)

Club colors: Red, white and blue.
Club song: "Pack up Your Troubles."
Eight hours' sleep every night.
One hour exercise outdoors every day.

Another example of a health club is the

New Haven Community Club

Motto: "Health is wealth, clean up, paint up and keep it up."
Keep New Haven clean, safe, beautiful.

Trophy awarded by Chamber of Commerce for best record. Badges of merit to individuals.

Announcements—Pink.
Pupil Reports—White.
Room Reports—Yellow.
School Reports—Blue.

Campaign to cover ash cans; cleaning up back yards; tidying schoolroom; raking out attics; painting of old weather-beaten houses; destroying fire traps or making them safe; riddance of rats, flies, mosquitoes; turning vacant lots into gardens and playgrounds.

> "I like to see a man proud of the town in which he lives, and I like to see a man so live that his town will be proud of him."—*Lincoln.*

Dramatization, a type of socialized recitation that develops and guides the child's imagination. Someone has said, "The imagination is a precious quality of the spirit" and Dewey warns us that "unless culture be a superficial polish, a veneering of mahogany over common wood, it surely is this, the growth of the imagination in flexibility, in scope, and in sympathy till the life in which the individual lives is informed with the life of nature and of society." In order to realize that dramatization is one of the best and the most natural means for the development and guidance of the child's imagination, the teacher has only to study the dramatic instinct and the great part it plays in the education of the child. Since health education is ambitious to help in the growth of the whole child, body, mind, and spirit, all teachers of health should be particularly interested in the study and application of this instinctive tendency to the principles and ideals of healthful living.

The dramatic impulse. To be convinced that the dramatic impulse is one of the strongest instinctive tendencies in child life, one has but to watch any individual child or group of children at play. The little boy rides his stick horse and no flesh and blood horse of the future is more real. The older boy accepts with like reality his "Indian" or "Captain Kidd" play, while the girl reflects life with striking fidelity in her doll family or in the "dress-up of grown-ups." As Mrs. Heniger, founder of the Children's Educational Theater says, "The marvel is that this life of 'make-believe' has been as little studied and so meagerly applied to the development of the child." She designated this land of the child's imagination as the "Kingdom of the Child," * and her book by that name gives the following guide lights, with many others, to the parent or teachers who would enter into this kingdom and use its riches to the best educational purposes.

> "In the Kingdom the child can learn best how to know himself by being, for a time, someone else; but he must create not imitate, his new character."
>
> "In every child within the Kingdom, slumbers the whole experience of the race and we, as educators, must endow the new spiritual lives with form and substance. The people who, in books, seem to be dead and buried are all alive when we meet them in the Kingdom."

* "Now out of print.

The need and force of dramatization. The idea that dramatization may be a potent factor in education has spread rapidly since psychologists and nerve specialists have agreed that natural self expression is necessary for a healthy nervous system. At last, it looks as if the many nervous children, the many awkward, self-conscious children are to be given their freedom—freedom not only to grow physically but to develop mentally and to unfold spiritually from a joyous childhood into a well poised manhood or womanhood. Children are born mimics and imitators but they are also capable of creative ability and it should be remembered that creative dramatization is one of the two best means for balanced development; the other is play, and they are so closely related that the two are often identical. Both are strong instinctive tendencies and both if properly guided may be placed as strong factors in developing emotional hygiene than which there is no more essential hygiene. Therefore, the teacher who gives the child dramatization, whether that dramatization is a Bible character, a patriotic leader, or an ideal citizen, is giving that child an opportunity to develop a healthy nervous system and a right spiritual attitude toward life—health habits far richer in promise than any of the usually listed health habits, important as these are.

To illustrate the seriousness with which children accept their dramatic interpretations and the high standard of excellence they demand of one another, the writer recalls being a guest in a second grade room for a special performance of the Red Riding Hood puppet show. While only the delightful effect of the whole was noted by her, the grade teacher afterwards told her of the children's chagrin because the little boy who took the speaking part of the wolf in the bedroom scene held the string so high that the wolf stood up on the bed instead of lying down as was expected of him.

Dramatization in health work. Dramatization is one of the easiest means for arousing interest in any subject and it is being most effectively used to motivate health work. The health play is now a popular school affair, in which the children act out a health program or story. There is a long list of good health playlets on the market that will prove stimulating; but if the teacher wishes to develop the real zest of her pupils, she should let them write their own play. This is, of course, English correlation, but an

enthusiastic response of an erstwhile listless phonic or composition class is likely to be the result. The success of this plan is demonstrated by "The Mountain Meadow," a dramatization of Spyri's Heidi, written by Miss Mary McKittrick, Principal of Lincoln School, Burlington, Iowa, and her pupils. The health plays recently given in grade group competition in New York City were planned and encouraged by the teachers. The Mother Goose Health Rhymes given in "Jack O'Health and Peg O'Joy" * were written by New York school children. The Mother Goose health rhymes given in the first grade section of this book were written in the phonic work of the first grade and were afterwards dramatized by the same grade as their act in the big inter-class health play given by the primary grades and grammar grades of our practice school.

An inter-class health play. Inter-class entertainments have been a part of our practice school assembly program for years, and in the past two years different grades have been responsible for putting on health plays. This idea expanded in 1922 into a big inter-class project—a health play of five acts, written, costumed and staged by the first five grades of the school. Each act was built up around the health interest of its particular grade. The interest of the children was intense and the play as given before the faculty, student teachers and upper grade children was a great success. The children were their own stage managers and their ingenuity, enthusiasm, and efficiency seemed remarkable to those who had not, before, seen what little children could do when they had the freedom to express themselves and the responsibility of living up to their class standards. The details of the play may be found under inter-class projects.

In the high school classes, pageants or plays may be successfully developed by the students themselves. They may be written in English, constructed in manual training, costumed in domestic art, decorated and colored in art, proportioned in arithmetic.

So far the health play has been discussed from the standpoint of the child, but no discussion would be complete without mentioning its influence on the parents and the community. If health education is truly to function in the life of the child, we must in

*See First Grade Course of Study.

every way encourage the co-operation of those who influence his life outside of school hours. It would be difficult to find an easier way to interest or educate parents or community in health ideals than by school plays or more pretentious community dramatics. For details of school and community pageantry write the bureau of Educational Dramatics, Community Service, 315 Fourth Ave., New York City, enclosing ten cents in stamps for their list of pageants, masques and festivals.* A health pageant on the playground or a street parade with health floats is a stimulating project for the children and an impressive lesson for a town or city.

REFERENCES

Chubb, Percival. "Festivals and Plays," Harper Brothers, New York City. Price: $2.00.

Hallock, Grace T. "Dramatizing Child Health," American Child Health Association, 370 Seventh Avenue, New York City. Price: $2.00.

Mackay, Constance D'Arcy. "Costumes and Scenery for Amateurs," Price: $1.70. "Patriotic Plays and Pageants," Price: $1.25. Henry Holt & Co., New York City.

Parsons, Belle Ragner. "Plays and Games for Indoors and Out," A. S. Barnes Co., New York City. Price: $1.60.

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*The National Tuberculosis Association, 370 7th Ave., New York City also publishes a pamphlet giving a list of plays and pageants recommended by the National Health Council.

CHAPTER XVII

MATERIALS FOR HEALTH EDUCATION

Need for discrimination in selection of health materials. An old New England farmer once said: "Too much reading rocks the brain." Certainly it takes constant adjustment of the mental slides to keep apace with the discoveries in modern science and if one attempts to read all of the material written on any one of the applied sciences there is danger of being "rocked." This is particularly true of the deluge of materials written on the various phases of health. In the opinion of many health workers much of the so-called health literature now flooding the market is not only inaccurate in the statement of facts but is often poorly written and organized. One of the greatest needs of health education today is for more scientifically correct books written in simple language and interesting manner. The problem is a difficult one, for health education is not yet an exact science and most of the people who are qualified to write such books are either too busy trying to meet the problems of the task before them, or they feel that they cannot write books, or they write in too technical a manner for the general public. However, in spite of this there are many standard references that are being kept up-to-date by careful revisions and many worthwhile new ones, if the student of health uses discrimination in weeding them out of the mass of material pouring from the press. The need for references and texts for health work in colleges and universities is fairly well met by these. The most pressing need now is for more suitable pleasurable reading and texts for the elementary and secondary schools.

Supplementary health readers for the grades. The present emphasis on silent reading, with occasional purposeful oral reading by one of the pupils, has built up a demand for a wide selective list of pleasurable reading for the child. While the list of health readers is constantly growing many of these books are graded too high for the average child in the grade to which they are assigned, but the

teacher in charge can use them as a basis for story work until her pupils are able to read them. In many cases the pupils of the higher grades enjoy reading and dramatizing them.

When it is realized that health education means not merely bodily hygiene but also mental, emotional, social, and spiritual hygiene it is seen that the field of supplementary readers is not as restricted as the first glance might indicate. The English reading lists for example contain many books that may be used in this connection.

Health text books. Many of the so-called texts for children of the elementary school are far removed from the interests and needs of the children. A teacher of health who confines her material to a text book fails to take advantage of the interest of the children. It is a senseless waste of time to have them read the same thing over and over and to have them make endless outlines of material that can hold their interest no longer than eight or ten hours at most. In place of using the text as a drug, its content should be used to awaken and guide the children's interest in wider study of the subject. A text serves this purpose in the project method, for there it is used only as a guide in subject matter to be covered by the children. When wisely used this method will invariably stimulate the children to do research work of an amazingly intensive type, with all the joy of an explorer. As Blaisdell expresses it, "The progressive teacher now looks upon her text book only as a useful and convenient helper. She supplements its use by simple experiments, blackboard sketches, pictures, models, collateral readings, and writing lessons." In the following outline courses of study it will be noted that in some cases several texts have been used, while in others the work has been expanded entirely by supplementary reference work for both teachers and pupils.

Other standard health literature. No discussion of health literature would be complete without mention of the many contributions found in the standard health magazines and in other standard publications, of the many bulletins and pamphlets written by specialists and published by federal, state, and city departments and by various other organizations working for health. Many of these are listed among the references given at the end of each chapter.

Additional Materials For Health Education

There is a variety of related materials that may be used to increase the interest of children in health work. The first among these is the health story, for, as Heniger says, "A lesson in story form secures the jewel of attention." Health songs, health playlets, health poems, and health creeds also offer opportunity for self-activity, and thereby intensify interest in health education. Supplementary health readers are almost indispensable while special health celebrations, as fire prevention day, health day or health week, safety week, clean-up week offer stimulation to both the child and the adult population of a community. Materials for each of the above activities are included in this chapter with additional references for health stories, songs and poems.

Health Creed*

"My body is the temple of my soul, Therefore:

I will keep my body clean within and without.
I will breathe pure air and I will live in the sunlight.
I will do no act that will endanger the health of others.
I will try to learn and practice the rules of healthy living.
I will work, rest and play at the right time and in the right way, so that my mind will be strong and my body healthy, and so I will lead a useful life and be an honor to my parents, to my friends, and to my country."

Health Songs

"The Six Best Doctors"

(Tune: Yankee Doodle.)

Words by H. V. Woodward. Courtesy of Iowa Tuberculosis Association.

"The six best doctors anywhere
And no one can deny it,
Are sunshine, water, rest and air,
Exercise and diet.

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* Courtesy of Massachusetts Department of Health.

CHORUS:

"These six will gladly you attend.
If you are only willing,
Your minds they'll cheer, your ills they'll mend
And charge you not one shilling."

The following songs are used by the courtesy of the Georgia Anti-Tuberculosis Association.

Mary's Cold

(Tune: Yankee Doodle.)

"Mary had a little cold
It started in her head,
And everywhere that Mary went,
That cold was sure to spread.

It followed her to school one day
There wasn't any rule,
It made the children cough and sneeze
To have that cold in school.

The Teacher tried to drive it out,
She tried hard, but———Kerchoo!
It didn't do a bit of good
For teacher caught it too."

"Mary's Cold" No. 2

(Tune: Yankee Doodle.)

"Mary had a little cold
Which settled in her head,
But she was very careful
And did not let it spread.

"She sneezed into her handkerchief,
She coughed into it too,
She breathed fresh air into her lungs,
She knew just what to do.

"So Mary stopped the little cold,
Which started in her head,
And no one caught it from her,
Or had to go to bed."

"I Am A Health Crusader"

(Tune: Dixie.)

"I am a Health Crusader, Hooray, Hooray,
Against disease I take my stand,
To fight all germs in Dixie Land,
Beware! Take Care! Bad Health's a tricky trader,
Line up! Sign up! and be a Health Crusader."

Health Rule Rhymes

"I washed my hands before each meal,
To have them clean and nice,
(Washing hands)
I washed my face and neck and ears,
(Scrubbing face, neck and ears)
My finger nails cleaned twice.
(Cleaning finger-nails).

"So I am a Health Crusader,
(Salute)
I'm growing fast all day long, sir—
(Bend both arms up, expanding chest)
For I'm going to help my Uncle Sam,
(Point to flag)
To make my country strong, sir.
(Salute).

"I put no unclean things in my mouth,
Pencils, books nor fingers,
(Lift pencil toward mouth, then put down quickly)
I brush my teeth at early morn,
And while the evening lingers.
(Brushing teeth).

"I took ten slow deep breaths of air,
(Expand chest)
I covered any sneezes,
(Cover mouth with handkerchief)

I played outdoors a whole half hour,
Amid the pleasant breezes.
(Toss imaginary ball into the air).

"I was in bed ten hours last night,
(Close eyes with head on left arm)
With window open wide,
(Opening imaginary window)
Drank four glasses of water today,
(Drink from imaginary tumbler)
No tea or coffee beside.
(And put out right hand in refusal).

"I ate fruits, cereals—not much meat,
I chewed them slowly and long,
(Slow chewing motion)
Had milk and eggs and such good things,
As make all children strong.
(Show biceps of right arm).

"I try to sit and stand up straight,
(Stand very straight)
Be helpful, neat and kind,
I take a full bath twice a week,
(Splash with imaginary water and rub down with imaginary towel)
And keep a cheerful mind."

National Fire Prevention Day Program*

Prevent Fire!

Annual Property Loss from Fire $350,000,000.

Loss of Life, 15,500.

The National Anthem—The Star Spangled Banner.

Proclamation and letters: Pupils to present the proclamation of governor and mayor and letters from prominent officials, as the President of the United States.

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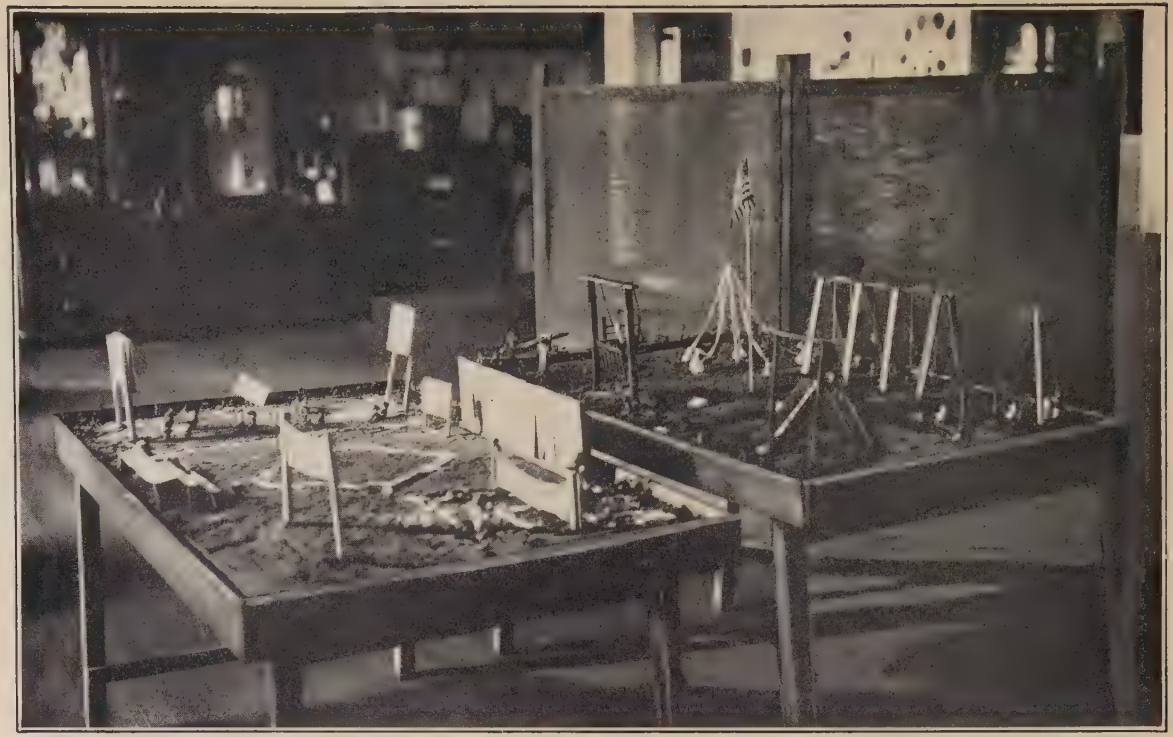
* Courtesy of the Colorado Department of Public Instruction.



Model Athletic Field and Model Playground, Sand Table Problems Made by Senior Normal Students for Annual Health Exhibit

The teacher's address: Discussion of American carelessness as lack of patriotism.

Report on national forest reserve police.

The fireman's talk: A talk by a uniformed member of the Fire Department demonstrating how an alarm of fire should be turned in.

Pupils sing "Fire Prevention Day Anthem," to tune of Maryland, my Maryland.

Boy's essay.

Girl's essay.

Concluding song.

Audience rise and sing America.

Don'ts*

1. Don't play with matches nor leave them where small children may find them, and set fire to themselves and their homes.
2. Don't build bonfires, they often cause destruction.
3. Don't fill a lamp or oil stove when it is lighted, for there is danger that it will explode and cause fire and injury.
4. Don't, if your clothing catches fire, run and fan the flames, but stop, drench them with water or smother them with a woolen rug or curtain.
5. Don't keep gasoline indoors, don't uncover it anywhere near a flame, for it is more dangerous than dynamite.
6. Don't use kerosene to light a fire in the kitchen stove or elsewhere, for many have been burned to death by so doing.
7. Don't throw grease on oil fire, but smother it with sand, earth, salt, soda, or by using chemical extinguisher.

Health Day Program for High School

I. Program in auditorium—10–12 o'clock.
   - A. Song—America.
   - B. Prayer.
   - C. Welcome address by teacher.

* Courtesy of the Colorado Dept. of Public Instruction.

D. Playlet, "Friends of Health."
E. Recitation "Two Boys and a Cigarette."
F. Song—Modern Health Crusader Song.
G. Playlet—"Judith and Ariel."
H. Debate—Health Legislation vs Health Education.

II. Exhibit—12–12:30 o'clock.
A. Charts on personal hygiene.
B. Charts on school hygiene.
C. Charts on community hygiene.
D. Manual training problems.
1. Individual drinking cup cabinet.
2. First aid cabinet.
3. Window boards.
4. Fly traps.
E. Sand tables.
1. Model rural home.
2. Model dairy.
F. Demonstration of
1. First aid.
2. Home nursing.
3. Pasturizing milk.

(For further suggestion for exhibit see course of study, Page 278).

III. Noon—Basket Lunch—12:30 to 1:45 o'clock.

IV. A health talk by health officer 1:45 to 2:30 o'clock.
B. Reading of health honor roll.

V. Athletic Contest.
A. Potato race.
B. Sack race.
C. Basket ball goal throwing.
D. Volley ball game by girls.
E. Boy's baseball game.

The Story. An apropos story is an effective means for carry-home a truth to any age, but it is particularly effective in the learning processes of the child. It fires his imagination and if the story is well read or well told he becomes an actual part of it. Through his ability to believe it, it becomes a part of his experience and thereby educates him.

The grade teacher, the parent, or anyone who has taken the time and had the joy in sharing a good story with a child needs no argument in favor of its use in health work.

Following are some stories which have been successfully used by the writer. To these an ingenious teacher may add true stories from her own experiences and also from those of her pupils.

Story of the Nickel*

I am a nickel. When I came from the United States mint I was clean and bright and shiny but I have traveled a great deal since then and have been in many strange places.

First a baker got me from the bank and put me in his cash drawer. Then a lady got me for change and took me home in her knitting bag. She gave me to the huckster when she bought some bananas and he put me in his pocket with a lot of other coins and some chewing tobacco. Next a ragpicker stopped the huckster to buy some fruit and he got me, too, in change. I stayed with the ragpicker for several days. My next owner was a newsboy who dropped me into the gutter. He heard me fall and hunted me very carefully, finally picking me up out of the mud into which I had rolled. The next morning I changed owners again, when Mr. S..... bought his morning newspaper. At noon, when Jennie S..... asked her father for a nickel to buy an ice cream cone, he gave me to her. Jennie took me to school with her, first carrying me in her sweaty hand, holding me very tight, and then she put me in her mouth and carried me the rest of the way there. That was the first bath I had ever had. Now I am clean again but not so shiny as I was when I first came from the mint, for I am getting old and will never be so bright again.

Pete

"It was Friday, yet curiously enough there was no school; the roller towel couldn't make it out; he looked around very disconsolately; he missed the merry chat of the children, and besides, he didn't like to be idle, for he lived a very busy life indeed. All week long, little hands and big were stretched out to him; sometimes they were very dirty indeed, hadn't been half washed, and by Saturday he was fully ready for the tub. My! the scrubbing and rubbing it took to make him once more clean enough to go back on the roller; it made him tired just to think of it; he began to yawn and yawn and finally settled down for a nap.

He was rudely awakened by the janitor who slipped him off

* From School Safety Bulletin, courtesy National Safety Council.

in a jiffy and threw him in a corner; he was quite used to that and waited quietly for the cleaning woman to take him home; but today something else was happening, the janitor was taking down his roller, and putting a queer shaped box in its place with some crinkled paper showing through an opening. The roller towel looked on in amazement. Was it possible that a new fangled paper towel was coming to take his place? He had never seen one but he had heard about them from other roller towels that he met in the tub, or hanging on the line. Presently he plucked up his courage. "Who are you?" he asked in a strangely unfamiliar voice.

"Why," came back the cheerful reply, "the boys call me Pete; my real name is Paper Towel, but that is too long for anybody with so short a life as mine, so the initials came to be used, P. T., you see, and those naturally got shortened into Pete."

"But what are you here for?" asked the roller towel, "you can't be used more than once, can you?"

"That's all," replied Pete, "but, you know, that's what I'm for, to be used only once; and if we do what we are put into the world for, we can't be called a failure, can we?"

"But it seems such a waste, doesn't it? Why, I'm used over and over; I hang here a whole week at a time, and all the children come to me for help."

"Well, perhaps that isn't as saving as it sounds," said Pete. "You see I've been here for several days waiting in a corner of the school room until I could be put in place, so I've seen and heard a good deal of what has been going on. When Jack came to school on Monday morning he had very red eyes, and asked the teacher if he might bathe them. He used you to wipe them, didn't he?"

"Why, of course, I told you all the children came to me for help."

"But didn't Tom wipe his face on you just after Jack did?"

"Perhaps so, you see I'm used so much, I really can't keep account."

"Well, anyway, you noticed that Jack didn't come to school on Tuesday, and Tom didn't come on Wednesday, and today school had to be closed because so many children were sick; I heard the doctor call the trouble 'pink eye' and say it was so catching that school had better be closed."

"Does it hurt?" asked the roller towel.

"Oh, yes, it hurts a lot, but it's nothing compared to some eye troubles; there's that disease with the long name, trachoma, I think it's called; that's very serious, you know, ever so many people go blind from that."

"Is that catching too?" asked the roller towel.

"Oh, dear me, yes! Why, I heard of a factory where a man had

it and all the men who worked near him caught it. You see they all wiped their faces on the same towel in the wash room."

"Well, suppose they did! What's that got to do with it?"

"Perhaps more than you think. You see I heard it explained at the health exhibit; my family was hung up for everyone to see, one of your family was there too, right besides us. The man who was telling people about us, took a pieces of charcoal and rubbed it on his face; then, taking hold of the roller towel like you, he wiped his face and showed the people how the black had come off on the towel. Then he asked the people in the crowd if they would like to wipe their faces on the same towel, and they all said "No," because they didn't want to get the black on their faces. Then he said, 'Now suppose instead of just a little black on my face, I had some dreadful disease. If I wiped my face on the towel, the germs might come off just as the black did. You are afraid of the black because you can see it, but it wouldn't do you half as much harm as the germs that you can't see. Now, if I take a towel that no one else has used, and no one else will use, there will not be any danger, because any germs will be destroyed with the towel. With that he took one of my family, wiped his face and threw the paper towel into the waste basket."

"Now," continued Pete, "I think that is just what happened here; Jack had some germs that made his eyes sore; he wiped them on you, then when Tom wiped his eyes, why he got the germs into his eyes, and so on with the other children."

"Dear me, dear me," said the roller towel, "I wouldn't have hurt the children for all the world. We've been such good friends; I've never scolded them even when they didn't half wash their hands! Why, I'm nearly worn out helping them so much."

"Why," sympathized Pete, "of course it isn't your fault; it's the fault of the grown-ups, they ought to have cut you into small squares, so that you wouldn't be used a second time until you were well washed and boiled."

"Do you think that will happen to me now?"

"No, I'm afraid you'll be put behind some kitchen door, and all the members of the family will wipe their hands and faces on you. You can't help it, of course, but by and by, people will learn better and then they will wash you and boil you and make you into soft bandages for the soldiers; that would be a fine ending, wouldn't it?"

"What will become of you, Pete?" "Oh, I'll just serve my turn and pass on!" "Do you think I'm worn out enough to go right to the soldiers now? I do hope so, because if I were put up in some kitchen I might do as much harm as I did here." The roller towel stretched himself so hard for Pete to see that he tore right in two! "Well," said Pete, "you do look pretty well done for, old man, but nothing to what I'll be when a child gets hold of me!"

Just then the cleaning woman came in and picked up the roller towel. "Well, I never!" she exclaimed, "New fangled paper towels! I wonder what we'll be coming to next! This roller towel wouldn't have lasted much longer, anyway, it's most worn out; not even good enough to hang in the kitchen. Let me see, didn't I hear about soft old linen being wanted for the soldiers? I'll just wash it and boil it, and 'twill be some good after all."

The roller towel gave a sigh of relief. "I'm going to help to heal!" he whispered to Pete, as he was carried out, "and perhaps that will make up for some of the harm I've done."

"Good luck, old chap," called Pete. He felt very lonely in the quiet room. He missed the roller towel, and longed for the merry voices of the children. "Well, this is the last time that school will have to be closed on account of pink eye, if my family can help it!" he exclaimed, with so much force that he almost tore himself in two.

Courtesy of Mrs. Winifred Hathaway, Secretary of National Committee for the Prevention of Blindness.

The Three Giants

Once there was a man who sat before a fire; there was a kettle on the fire and it was singing; steam was coming out of its nose and the lid was bobbing. He watched it a long time and then a fairy whispered in his ear—(or maybe it was the song the kettle was singing) this:

"There's a giant in that kettle; catch him and build a strong harness around him and he will pull your ships across the ocean with sails, and pull your trains across the land." And they caught the steam giant and built an iron harness—a machine we call an engine, and he pulls ships across the sea and trains across the land. His name is Steam. He does great thing, goes very fast, and does many good things, but sometimes he does cruel things. If you get too near Steam it will burn you—scald you; and if you walk on the railroad track, sometimes he can't stop and runs over you.

Another Giant, the Auto Giant, came up out of the ground. They dug a deep hole in the ground and instead of water a black shiny, oily thing came up, but it is really a Giant that was asleep in the ground for thousands of years. They cleaned this Giant and now we call it gasoline, and this Giant out of the ground makes the motorcycle go; he makes the automobile run, and he makes the flying machine sail through the air.

There is another Giant, the Fire Giant. He does good things for us but he hurts boys and girls too, if they forget to think of Safety First. This Giant comes out of the end of a match sometimes, and he often burns down great forests and cities, your home, and your school.

Safety First Stories in Outline. Courtesy of New Jersey Department of Public Instruction.

Danny's Christmas Seal

To the teacher: Will you devote twenty minutes on "Children's Health Crusade Day," December 8th, to a story-talk on Health and particularly Tuberculosis Christmas Seals?

The Christmas Seal lay on Danny's desk. Danny stared hard at it over the top of his geography. He had just paid one new, shiny penny for that seal.

And it all happened because teacher had been telling the boys and girls about a sickness called tuberculosis. Danny thought of a boy who once lived next door, a boy who could not run and play, but who must stay in bed all day, day after day. Father and mother shook their heads and looked sad when Danny asked what was the matter with the boy who lived next door.

"He has tuberculosis," they said.

And now teacher had told the children about this disease. "Each Christmas Seal costs one penny," she said, "And all of the pennies will be used to help those people who are sick with tuberculosis, and to teach others how to avoid it."

Danny had only one penny and with it had planned to buy hard candy that sucks for such a long time. Instead, he marched up the aisle, laid the penny on teacher's desk and said:

"Here, I'll take one of those seals."

And now the seal lay on Danny's desk, and we are back at the beginning of our story.

Suddenly Danny leaned forward, scarcely daring to breathe. His Christmas seal was changing. It already looked different.

Santa Claus was growing bigger and bigger. Now his head was turning so that his eyes looked right into Danny's. Danny could hardly be mistaken, and yet he could scarcely believe what he saw.

Santa's right eye closed once, twice, three times in an unmistakable wink. Then both his eyes twinkled so that Danny felt dizzy.

"Hey, Boy," said Santa in a peculiar whistling whisper, "Did I scare you?"

"N-o-o, Sir!" answered Danny, looking all around to see if anyone else had heard. "Nothing can scare me!"

No one else seemed to have noticed the change in the Christmas Seal on Danny's desk. The little girl in the next seat was busy with her arithmetic. Even teacher, who usually noticed every time a fellow moved, seemed not to see this strange happening.

"Danny," cried Santa. How in the world did Santa know his name? "I've too much work to do to stay any longer on this seal. Now I've planned a little jaunt over the world. Want to come along?"

"Yes," whispered Danny, wondering what his father and mother would say when he didn't come home to dinner.

"All right, follow me." Santa stepped into the aisle and Danny followed. No one even looked up. Right through the window they stepped just as though it had been an open door.

"That's a great-to-do," said Santa, putting glass in windows to keep out the good out-door air. I was in a school the other day where the windows were all open—a Fresh Air School is was called.

Santa whistled the strangest whistle. Afterwards Danny tried to imitate it but he never could do it. Ting-a-ling. Round the corner of the building, driving right through the air came Santa's sleigh.

"Pile in, boy," said Santa. Danny got in and snuggled down among the fur rugs, Santa cracked his whip, the reindeers danced and they were off; across towns and across country they flew. Santa went right on talking:

"Yes, sir! A strange sickness, this tuberculosis. It is caused by a tiny germ—"

"Oh," boasted Danny, "a tiny germ could never make me sick." "Careful, careful," cautioned Santa Claus. "Then you must remember that one germ never attacks alone, but he brings along millions of his companions to help him. But even then a boy or girl could usually beat this germ army if they only weren't so blind." Santa shook his head sadly.

Danny opened wide his eyes in astonishment. "Why, I'm not blind—and neither are any of the other children that I know."

"Oh, I meant that you couldn't see who are your best friends, the ones who always help you fight against the tuberculosis germs."

"What do you mean?" asked Danny.

"Listen, and I'll tell you."

"Fresh air, fresh air, night and day,
Helps to keep Bad Germs away.

"If they sneak in past your guard,
You must fight them good and hard.

"Keep your body clean and strong,
Then Bad Germs can't linger long.

"Good food, Sleep and Sunshine, too
Each one has its share to do.

"You must work and you must play,
If you'd drive Bad Germs away.

"And, remember, life's most fun
When the Health Fight you have won.

"Fresh air, fresh air, night and day,
Helps to keep Bad Germs away.

"Look down at that white house," exclaimed Santa, as they were driving above a small town. He took out a long telescope and gave it to Danny.

"Why, I can see just as plain as anything," cried Danny. "There's a boy about my size looking out of the parlor window."

"Yes," said Santa, "his mother wants him to go out and play, but he whines and says it's too cold. I've no use for such namby-pamby children. Why, the Fresh Air, especially when it is crisp and cold, will do more than anything to keep you from having Tuberculosis—and other sickness, too, even Bad Colds. And as for children who don't want to go out at recess because it is cold out-of-doors—Whew—" and Santa snapped his fingers.

Danny hung his head, hoping that Santa did not know that that very morning he had asked Teacher to excuse him from going out.

"And then," went on Santa, "just think of having to teach anyone to sleep with the window open so that fresh air comes in at night!"

"But," objected Danny, "when it's cold?"

"You need fresh air in the winter as well as in the summer," interrupted Santa. "When I come driving by your bed-room to-night, I don't want to see the window shut tight."

"I'll have it open," promised Danny. "And the next night, and oh, every night after this. If fresh air will help to make me big and strong and keep me well, I'm going to have plenty of it."

"Fine," said Santa. "Do you want to drive for a while?" Santa gave the reins to Danny, who sat up straighter than ever in his pride at driving such a fine sleigh. On and on they flew, now up in the clouds, now close enough to see the people walking around on the ground below.

"Watch out there," exclaimed Santa. "You almost ran into another of your friends."

Danny looked around in search of this friend of his. He could see nothing except hundreds of sunbeams which twirled and danced in the air.

"What friend of mine?" asked Danny. "I don't see anything."

"Ho, Ho," laughed Santa. "Those sunbeams there! They are just on their way down to earth to fight your enemies, the germs."

"Are sunbeams good germ killers?" exclaimed Danny.

"I should say so. If a sunbeam shines down on a tuberculosis germ, it kills the germ in a few minutes. That is why children

ought always to put up the window shades so as to let a plenty of sunshine come into the house. Think you can remember that?"

"Yes," promised Danny, privately resolving to put up the window shades in the parlor as soon as he got back home. "But, look! What's that?" Danny pulled at Santa's arm.

Below was a huge building. Pennies and pennies and pennies were rolling up the street and in at the front door. Wagon loads of pennies were being dumped in at the windows. Santa threw back his head and laughed and laughed and laughed.

"Those," said he, "are the pennies which boys and girls in the United States spend, and get other people to pay for Christmas Seals. See that shiny one coming? It must be yours."

Danny clapped his hands as the shining new penny rolled in at the front door. Then he leaned back with a sigh and said:

"What becomes of all those pennies?"

"Oh," said Santa, "they are all spent in teaching boys and girls and other people, too, how to avoid tuberculosis and how to keep well and strong."

"Then," continued Danny, "when I put a seal on a Christmas present it means I have helped one penny's worth?"

"Exactly," answered Santa, "Christmas is the time of giving, when each one wishes to make a present to some one else to show the joy and good wishes in his heart. Could you wish a person any better thing than good health?"

"No," said Danny, "I'd rather be well than to have everything else in the world."

"So the Christmas seal stands for what you give to help in the fight against disease. I am the children's emblem of Christmas, so that is why my picture is on the seal."

Danny was silent for a long, long time thinking about what Santa had said.

"But," continued Santa, "talking about Christmas seals, it's time that I was back on the seal on your desk. Shut your eyes and don't open them until I say so."

Danny shut his eyes tightly. Everything was black. He seemed to be falling a long, long way. It seemed as though Santa was singing over and over again:

> And, remember, life's most fun
> When the Health Fight you have won.
>
> Fresh air, fresh air, night and day,
> Helps to keep Bad Germs away.

"Here we are, Danny," said Santa. "Back again." Bump! They struck something. It felt like the edge of the desk. Danny opened his eyes. He was back again in his seat at school. Every-

thing looked just as usual. No one seemed to have noticed his absence. The Christmas Seal still lay on his desk. Had he really been away or had he dreamed it all? And yet, as Danny bent closely over the seal, he was sure that Santa gave him an unmistakable wink.

Written by Maynard Downes. Verses by Mrs. L. F. Brand. Used by courtesy of and copyrighted by the Wisconsin Anti-Tuberculosis Association.

The Story of The Rain Barrel

O! John! did you know that I almost fell on my head into the rain barrel at the corner of the house this morning? I was looking at the picture of myself in the water, when, all of a sudden, I saw the funniest little things darting everywhere in the water. I forgot to look at myself or to make any more faces at the broad face of the little boy at the bottom of the rain barrel. There were lots of those queer little things in the rain water. They were turning somersaults and standing on their heads every few minutes. Here is the picture of one. I tried to catch some in my hands, but they were too quick for me, they would just wiggle out of reach. This was why I nearly fell in on my head.

I ran into the house to ask Mother about them. Mothers know a lot of things, don't they, John? At least mine does. I just knew she would tell me all about these queer little things in the barrel. When I asked her to tell me, she put her sewing down and went to the rain barrel with me. As soon as she looked she said she was so glad that I came for her, that she would tell me all about the little "wiggle-tails," and that I could help her destroy them, as they would do much harm if they grew up.

She said that they were the little baby mosquitos. Isn't that funny? I did not know that mosquitoes lived in water, even when they were babies, did you? I will tell you just what Mother said. She said that if I were near a pond or rain barrel, or even an old tin can, in which water was standing, early in the morning before the sun was up, I could hear Mrs. Mosquito come singing merrily to the water, and that if I watched and did not disturb her, I could see her rest lightly on the water and lay her eggs there in a little brown boat or raft-shaped mass, little eggs like these. The mosquito mother now thinks her duty to her children is done, for, after she lays the eggs on the water, she goes off singing, never thinking of them again.

If nothing disturbs them, the boat of eggs floats on the water a little longer than a day when all of a sudden the shells of the eggs begin to break and the little "wiggle-tails" hatch, or come out of the shells. These funny little "wiggle-tails" go frisking about in the water. They dive down here and there in the water, hunting for

something to eat. These are the baby mosquitoes. They are very queer looking, with their big heads and eyes and a funny little tube at the tail end of their bodies. They push this tube up out of the water to get air to breathe. I saw a number of them push these little tubes up to the top of the water, but, when I got close, down to the bottom of the barrel they would dive, head foremost, as if they were scared. They soon had to come up again for another breath of air.

Mother said that if no one disturbed them they would eat germs and all sorts of little water plants for about two weeks, growing all the time. At the end of that time, each one would curl himself into a cocoon, like a ball, called a pupa. After about four days of rest and growing in this cocoon, the case would break and out would come a thing with wings, a full-grown mosquito. It would stand on its case of cocoon, dry its wings in the sun, and then fly away to begin life as a mosquito.

Mother said she did not want to give the little "wiggle-tails" a chance to become mosquitoes and that if I would bring her some oil from the kitchen pantry she would show me how to kill the little "wiggle-tails." I ran for the oil just like your mamma burns in her lamps. Mother poured a few spoonsful in the rain barrel and that was the end of Mr. Wiggle-tail. The oil kept the "wiggle-tails" from getting any air to breathe through their funny breathing tubes, and they smothered.

Mother says we must have a Mosquito Brigade and go about places killing all the mosquitoes; that we must not let water stand in tin cans or barrels; and that we must pour oil in the ditches and ponds where water stands and where the mosquitoes can lay eggs. The mosquito will not lay eggs on the dry land, for the "wiggle-tails" cannot take care of themselves on dry land, and the mosquito mothers know this.

It seems to me that Dame Nature, as Mother calls her, has taught many wonderful secrets to her children.

Mother told me why she wanted to kill all the "wiggle-tails." I will tell you about it tomorrow, if you will come to the grapevine swing with me.

From "Keep Well Stories." Courtesy of Dr. May F. Jones and J. B. Lippincott Company.

Malaria

You remember, John, I told you about the "wiggle-tails" or baby mosquitoes, in the rain barrel, and how eager my mother was to pour oil on the water and kill them?

Well, Mother told me a long story about the baby mosquitoes and what they do when they are grown up. She said that mosquitoes carry malaria or chills from one person to another.

Don't you remember when we had chills last summer and Uncle John had to come to see us and give us some medicine? Mother said that was because some grown up mosquito had bitten a person who had chills, and while sucking that person's blood, the mosquito had sucked into her bill some malaria poison; then later when she bit us, she punched some of that poison into our blood, while she was getting a supper from our blood. The mosquito's bill is as sharp as one of Uncle John's knives.

Mother told me that a long time ago, when the English came to Virginia, they settled at Jamestown, and they were afraid of the Indians, the bears, and the panthers, that could hide in the forest near-by.

The English did not know it, but they had a more deadly enemy then at Jamestown than the Indians and the panthers. This enemy was so small they could not see it, and then, too, they had not learned about it as we are learning now. This enemy was a little germ or parasite that causes malaria.

Mother says that it is easy to fight an enemy when it is out in the open. The settlers knew only that many of their people got sick and died. This was because there were many mosquitoes there, and these mosquitoes bit them, and put these poisonous enemies into their blood. But they did not know that the mosquitoes were the cause of the great number of deaths in the colony.

All this happened many years ago. I believe the English thought their old enemy, the Dragon, of which they had heard so much, but which they could not see, had come to this new land.

We can know the mosquito that carries malaria because she looks as if she is trying to stand on her head when she lights on anything. It seems queer that the female mosquito is the only one that poisons us with malaria. Perhaps the male mosquito cannot bite, because he has so many feathery plumes on his bill.

The mosquito and the germ of malaria, which is carried from one person to another, killed far more white people than the Indians or the wild animals did.

Not many years ago, a very clever man found out that the mosquito carried malaria, for, without her, the germs could never get into our blood.

Mother says that the way for us to stop malaria is for us to kill all the mosquitoes, and the best way to kill them off is to do so when they are little "wiggle-tails" or "Wigglers." She says the best of all, though, is never to have any standing water around where the mosquito can lay eggs.

I am going to kill every mosquito I see. Mother says I can tell the one that carries malaria, because she is always trying to stand on her head like this.

I'll tell you, let's have a "Mosquito and Fly Brigade." You can be the Captain. All the little boys and girls in our classes can

march under the colors, and we will make war on every fly and mosquito in the neighborhood, and stop the children and grown people from having malaria. Mother says sickness costs a lot of money—many millions of dollars every year.

We will be little soldiers while all the country is at peace, but we will wage a battle royal against these very small but strong enemies, and we will win.

Our motto will be: "To prevent is better than to cure."

From "Keep Well Stories." Courtesy of Dr. May F. Jones and J. B. Lippincott Company.

The Kingdom of the Greedy

The country of the Greedy, well known in history, was ruled by a king who had much trouble. His subjects were well-behaved, but they had one sad fault: they were too fond of pies and tarts. It was as disagreeable to them to swallow a spoonful of soup as if it were so much sea-water, and it would take a policeman to make them open their mouths for a bit of meat, either boiled or roasted. This deplorable taste made the fortunes of the pastry cooks, but also of the apothecaries. Families ruined themselves in pills and powders; as well as other disagreeable remedies, such as castor —— which I will not name.

The King of the Greedy sought long for the means of correcting this fatal passion for sweets, but even the faculty were puzzled.

"Your Majesty," said the great court doctor, "your people look like putty! They are incurable; their senseless love for good eating will bring them all to the grave."

This view of things did not suit the King. He was wise, and saw very plainly that a monarch without subjects would be but a sorry king.

Happily, after this utter failure of the doctors, there came into the mind of His Majesty a first-class idea: he telegraphed for Mother Mitchel, the most celebrated of all pastry cooks. Mother Mitchel soon arrived, with her black cat, Fanfreluche, who accompanied her everywhere. He was an incomparable cat. He had not his equal as an adviser and a taster of tarts.

Mother Mitchel having respectfully inquired what she and her cat could do for His Majesty, the King demanded of the astonished pastry cook a tart as big as the capitol—bigger even, if possible, but no smaller.

The King gave Mother Mitchel one month to carry out his gigantic project. "It is enough," she proudly replied, brandishing her crutch. Then, taking leave of the King, she and her cat set out for their home.

On the way Mother Mitchel arranged in her head the plan of the momument which was to immortalize her, and considered the

means of executing it. As to its form and size, it was to be as exact a copy of the capitol as possible, since the King had willed it; but its outside crust should have a beauty all its own. The dome must be adorned with sugar plums of all colors, and surmounted by a splendid crown of macaroons, spun sugar, chocolate, and candied fruits. It was no small affair.

Mother Mitchel did not like to lose time. Her plan of battle once formed, she recruited on her way all the pastry cooks of the country.

With the help of her crutch and of Fanfreluche, who miowed loud enough to be heard twenty miles off, she called upon all the millers of the land and commanded them to bring together at a certain time as many sacks of fine flour as they could grind in a week.

At the call of Mother Mitchel all the farmers' wives were set to work; they rushed to the hencoops to collect the seven thousand fresh eggs that she wanted for her great edifice.

The milkmaids were busy from morning till night in milking cows. Mother Mitchel must have twenty thousand pails of milk.

And now Mother Mitchel called for a thousand pounds of the best butter. All the churns for twenty miles around began to work in the most lively manner. The butter was tasted, rolled into pats, wrapped up, and put into baskets. Such energy had never been known before.

On the appointed day all the millers arrived with their asses trotting in single file, each laden with a great sack of flour. Mother Mitchel, after having examined the quality of the flour, had every sack accurately weighed.

All the farmers' wives arrived in turn, with baskets of eggs upon their heads.

And now the milk maids with their pots and pails of milk, and the buttermakers with their baskets filled with the rich yellow pats of butter, filed in long procession to the right and left of the cabin of Mother Mitchel.

Then came the grocers, each one clasping to his heart a sugar loaf nearly as large as himself. From another quarter came a whole army of country people, rolling wheelbarrows and carrying huge baskets, all filled with cherries, plums, peaches, apples, and pears. The fruits were all put into bins, each kind by itself. And now the preparations were finished. There was no time to lose before setting to work.

The spot which Mother Mitchel had chosen for her great edifice was a pretty hill on which a plateau formed a splendid site. This hill commanded the capitol city, built upon the slope of another hill close by. After having beaten down the earth till it was smooth as a floor, they spread over it loads of bread crumbs, brought from

the baker's, and levelled it with rake and spade, as we do gravel in our garden walks.

All the ingredients for the tart were now ready. Upon order of Mother Mitchel they began to peel the apples and pears and to take out the pits. The weather was so pleasant that the girls sat out of doors, upon the ground, in long rows. The sun looked down upon them with a merry face. Each of the little workers had a big earthen pan, and peeled incessantly the apples which the boys brought them. When the pans were full, they were carried away and others were brought. They had also to carry away the peels, or the girls would have been buried in them. Never was there such a peeling before.

Now began the real labor of Mother Mitchel. Till now she had been the commander-in-chief—the head only; now she put her own finger in the pie. First, she had to make the sweetmeats and jam out of all the immense quantity of fruit she had stored. For this, as she could only do one kind at a time, she had ten kettles, each as big as a dinner table. During forty-eight hours the cooking went on; a dozen scullions blew the fire and put on the fuel. Mother Mitchel, with a spoon that four modern cooks could hardly lift, never ceased stirring and trying the boiling fruit. Three expert tasters, chosen from the most dainty, had orders to report progress every half hour.

The pastry cooks rolled up their sleeves and began to knead the dough with cries of "Hi! Hi!" that could be heard for miles.

When each troughful of paste was approved it was moulded with care into the form of bricks, and the majestic edifice was begun.

The inside of the monument was divided into as many compartments as there were kinds of fruits. The walls were no less than four feet thick. When they were finished, twenty-four ladders were set up, and twenty-four experienced cooks ascended them. These first-class artists were each of them armed with an enormous cooking spoon. Behind them, on the lower rounds of the ladders, followed the kitchen boys. carrying on their heads pots and pans filled to the brim with jam and sweetmeats, each sort ready to be poured into its destined compartment. This colossal labor was accomplished in one day, and with wonderful exactness.

When the sweetmeats were used to the last drop, when the great spoons had done all their work, the twenty-four cooks descended to earth again. The intrepid Mother Mitchel, who had never quitted the spot, now ascended, followed by the noble Fanfreluche, and dipped her finger into each of the compartments, to assure herself that everything was right.

All went on well. Mother Mitchel had given her approbation. Nothing was needed now but to crown the sublime and delicious edifice by placing upon it the crust—that is, the roof, or dome. This delicate operation was confided to the engineer-in-

chief who now showed his superior genius. The dome, made beforehand of a single piece, was raised in the air by means of twelve balloons, whose force of ascension had been carefully calculated. First it was directed, by ropes, exactly over the top of the tart; then at the word of command it gently descended upon the right spot. It was not a quarter of an inch out of place. This was a great triumph for Mother Mitchel and her able assistant.

But all was not over. How should this colossal tart be cooked? That was the question that agitated all the people of the Greedy country, who came in crowds—lords and commons—to gaze at the wonderful spectacle.

Mother Mitchel, smiling at the general bewilderment, mounted the summit of the tart; she waved her crutch in the air, and while the cat miaowed in his sweetest voice, suddenly there issued from the woods a vast number of masons, drawing wagons of well-baked bricks, which they had prepared in secret. This sight silenced the ill-wishers and filled the hearts of the Greedy with hope.

In two days an enormous furnace was built around and above the colossal tart, which found itself shut up in an immense earthen pot. Thirty huge mouths, which were connected with thousands of winding pipes for conducting heat all over the building, were soon choked with fuel, by the help of two hundred charcoal burners, who, obeying a private signal, came forth in long array from the forest, each carrying his sack of coal. Behind them stood Mother Mitchel with a box of matches, ready to fire each oven as it was filled. Of course the kindlings had not been forgotten, and all was soon in a blaze.

When the fire was lighted in the thirty ovens, when they saw the clouds of smoke rolling above the dome, that announced that the cooking had begun, the joy of the people was boundless.

After two days, the unerring nose of Mother Mitchel discovered that the tart was cooked to perfection. The whole country was perfumed with its delicious aroma. Nothing more remained but to take down the furnaces. Mother Mitchel made her official announcement to His Majesty, who was delighted, and complimented her upon her punctuality. The bricks were taken down one by one, counted carefully, and carried into the forest again, to serve for another occasion.

The Tart, unveiled, appeared at last in all its majesty and splendor. The dome was gilded, and reflected the rays of the sun in the most dazzling manner. The wildest excitement and rapture ran through the land of the Greedy. Each one sniffed with open nostrils the appetizing perfume. Their mouths watered, their eyes filled with tears, they embraced, pressed each other's hands, and indulged in touching pantomimes. Then the people of town and country, united by one rapturous feeling, joined hands and danced in a ring around the grand confection.

No one dared to touch the tart before the arrival of His Majesty. Meanwhile, something must be done to allay the universal impatience, and they resolved to show Mother Mitchel the gratitude with which all hearts were filled. They placed her, with her crutch and her cat, upon a sort of throne, and carried her all around her vast work. Before her marched all the musicians of the town, dancing, drumming, fifing, and tooting upon all instruments, while behind her pressed an enthusiastic crowd, who rent the air with their plaudits and filled it with a shower of caps. Her fame was complete, and a noble pride shone on her countenance.

The royal procession arrived. A grand stairway had been built, so that the king and his ministers could mount to the summit of this monumental tart. Thence the King, amid a deep silence, thus addressed his people!

"My children," said he, "you adore tarts. You despise all other food. If you could, you would even eat tarts in your sleep. Very well. Eat as much as you like. Here is one big enough to satisfy you. But know this, that while there remains a single crumb of this august tart, from the height of which I am proud to look down on you, all other food is forbidden you on pain of death. While you are here, I have ordered all the pantries to be emptied, and all the butchers, bakers, pork and milk dealers, and fishmongers to shut up their shops. Why leave them open? Why indeed? Have you not here at discretion what you love best, and enough to last you ever, ever so long? Devote yourselves to it with all your hearts. I do not wish you to be bored with the sight of any other food.

"Greedy ones! behold your TART!"

What enthusiastic applause, what frantic hurrahs rent the air, in answer to this eloquent speech from the throne!

"Long live the King, Mother Mitchel and her cat! Long live the tart! Down with soup! Down with bread! To the bottom of the sea with all beefsteaks, mutton chops, and roasts!"

At last the signal was given. A detachment of the engineer corps arrived, armed with pick and cutlass, and marched in good order to the assault. A breach was soon opened, and the distribution began. The King smiled at the opening of the tart; though vast, it hardly showed more than a mouse hole in the monstrous wall.

The King stroked his beard grandly. "All goes well," said he, "for him who knows how to wait."

Who can tell how long the feast would have lasted if the King had not given his command that it should cease? Once more they expressed their gratitude with cries so stifled that they resembled grunts, and then rushed to the river. Never had a nation been so besmeared. Some were daubed to the eyes, others had their ears and hair all sticky. As for the little ones, they were marmalade

from head to foot. When they had finished their toilets, the river ran all red and yellow and was sweetened for several hours, to the great surprise of all the fishes.

Before returning home, the people presented themselves before the King to receive his commands.

"Children!" said he, "the feast will begin again exactly at six o'clock. Give time to wash the dishes and change the tablecloths, and you may once more give yourselves over to pleasure. You shall feast twice a day as long as the tart lasts. Do not forget. Yes! if there is not enough in this one, I will even order ANOTHER from Mother Mitchel; for you know the great woman is indefatigable. Your happiness is my only aim." (Marks of universal joy and emotion.) "You understand? Noon, and six o'clock! There is no need for me to say be punctual! Go, then, my children—be happy!"

The second feast was as gay as the first, and as long. A pleasant walk in the suburbs—first exercise—then a nap, had refreshed their appetites and unlimbered their jaws. But the King fancied that the breach made in the tart was a little smaller than that of the morning.

"'Tis well!" said he, "'tis well! Wait till to-morrow, my friends; yes, till day after to-morrow, and next week!"

The next day the feast still went on gayly; yet at the evening meal the King noticed some empty seats.

"Why is this?" said he with pretended indifference, to the court physician.

"Your Majesty," said the great physician, "a few weak stomachs; that is all."

On the next day there were larger empty spaces. The enthusiasm visibly abated. The eighth day the crowd had diminished one half; the ninth, three quarters; the tenth day, of the thousand who came at first only two hundred remained; on the eleventh only one hundred! and on the twelfth—alas; who would have thought it?—a single one answered to the call. Truly he was big enough. His body resembled a hogshead, his mouth an oven, and his lips—we dare not say what. He was known in the town by the name of Patapouf. They dug out a fresh lump for him from the middle of the tart. It quickly vanished in his vast interior, and he retired with great dignity, proud to maintain the honor of his name and the glory of the Greedy Kingdom.

But the next day, even he, the very last, appeared no more. The unfortunate Patapouf had succumbed, and, like all the other inhabitants of the country, was in a very bad way. In short, it was soon known that the whole town had suffered agonies that night from too much tart. Let us draw a veil over those hours of torture. Mother Mitchel was in despair. All the city was one vast hospital. No one was seen in the streets but doctors and apothecaries' boys, running from house to house in frantic haste. It was

dreadful! As for the King, he held his tongue and shut himself up in his palace, but a secret joy shone in his eyes, to the wonder of every one. He waited three days without a word.

The third day, the King said to his ministers:

"Let us now go and see how my poor people are doing, and feel their pulse a little."

The good King went to every house, without forgetting a single one. He visited small and great, rich and poor.

"Oh, oh! Your Majesty," said all, "the tart was good, but may we never see it again! Plague on that tart! Better were dry bread. Your Majesty, for mercy's sake, a little dry bread! Oh, a morsel of dry bread, how good it would be!"

"No indeed," replied the King. "There is more of that tart!"

"What! Your Majesty, must we eat it all?"

"You must!" sternly replied the king, "you MUST! By the immortal beefsteaks! not one of you shall have a slice of bread, and not a loaf shall be baked in the kingdom while there remains a crumb of that excellent tart!"

"What misery!" thought these poor people. "That tart forever!"

The sufferers were in despair. There was only one cry through all the town: "Ow! ow! ow!" For even the strongest and most courageous were in horrible agonies. They twisted, they writhed, they lay down, they got up. Always the inexorable colic. The dogs were not happier than their masters; even they had too much tart.

The spiteful tart looked in at all the windows. Built upon a height, it commanded the town. The mere sight of it made everybody ill, and its former admirers had nothing but curses for it now.

In the midst of this terrible consternation the King remained inexorable during eight days. His heart bled for his people, but the lesson must sink deep if it were to bear fruit in future. When their pains were cured, little by little, through fasting alone, and his subjects pronounced these trembling words, "We are hungry!" the King sent them trays laden with—the inevitable tart.

"Ah!" cried they, with anguish, "the tart again! Always the tart, and nothing but the tart! Better were death!"

A few, who were almost famished, shut their eyes, and tried to eat a bit of the detested food; but it was all in vain—they could not swallow a mouthful.

At length came the happy day when the King, thinking their punishment had been severe enough and could never be forgotten, believed them at length cured of their greediness. That day he ordered Mother Mitchel to make in one of her colossal pots a super-excellent soup, of which a bowl was sent to every family. They received it with as much rapture as the Hebrews did the manna in the desert. They would gladly have had twice as much, but after their

long fast it would not have been prudent. It was a proof that they had learned something already, that they understood this.

The next day, more soup. This time the King allowed slices of bread with it. How much this good soup comforted all the town! The next day there was a little more bread with it and a little soup meat. Then for a few days the kind Prince gave them roast beef and vegetables. The cure was complete.

The joy over this new diet was as great as ever had been felt for the tart. It promised to last longer. They were sure to sleep soundly, and to wake refreshed. It was pleasant to see in every house tables surrounded with happy, rosy faces, and laden with good nourishing food.

The Greedy people never fell back into their old ways. Their once puffed-out, sallow faces shone with health; they became, not fat, but muscular, ruddy, and solid. The butchers and bakers reopened their shops; the pastry cooks and confectioners shut theirs. The country of the Greedy was turned upside down, and if it kept its name, it was only from habit. As for the tart, it was not forgotten. To-day, in that marvelous country, there cannot be found a paper of sugar-plums or a basket of cakes. It is charming to see the red lips and beautiful teeth of the people. If they have still a king, he may well be proud to be their ruler.

Does this story teach that sweets should never be eaten? No; but there is reason in all things.

Ask no more about Mother Mitchel. She was ridiculed without measure by those who had adored her. To complete her misfortune, she lost her cat. Alas for Mother Mitchel!

The King received the reward of his wisdom. His grateful people called him neither Charles the Bold, nor Peter the Terrible, nor Louis the Great, but always by the noble name of Prosper I, the Reasonable.

Adapted from the story by P. J. Stahl from "Story Hour Favorites" compiled by Wilhelmina Harper. Used by courtesy of the Century Company.

The Pink Lady Doll's Experiment

Meredith's blue eyes were as sparkling as the waters of the brook when they dance in the sunshine. Her plump little legs flew up the stairs so fast and so lightly that anyone would have known something nice was about to happen.

"Tomorrow," she cried to her fourteen dolls as she burst into the playroom, "yes, the very first tomorrow, we're going to Lake Michigan to stay all summer!—No, I can't take you all." She dropped down beside them and, taking the baby doll in her arms, looked around upon her children with motherly concern as she

talked to them. "Only one of you may go with us else there wouldn't be room for Mother and Daddy."

Now you can see for yourself that it was really very difficult to decide fairly which one of your fourteen children to take on such a long visit. Meredith was really quite bewildered.

Black Dinah stood sweeping the floor as usual. She was quite grown up and able to take care of herself; there really was no need of taking her. The Punch and Judy twins and Raggety Ann sprawled comfortably in the doll hammock. Any one of them would have loved the wide stretches of white sand but Meredith really couldn't take one without the others for they were always together. Gretchen, who was as sweet and prim as any little Holland maid you ever saw sat quietly in the little red chair, while the beautiful and expensive Eleanor slept peacefully in the doll cab without mussing so much as one of her lovely brown curls. Gretchen and Eleanor were good children and exceedingly well behaved, but one had to play carefully with them. On Meredith's last birthday Skeezix had put in his appearance. Today he was giving the ten cent dolls a morning ride in the sail boat. He would have made a jolly companion for the summer except that he was always getting into mischief, and a mother of fourteen needs some rest during vacation. One dilapidated tin soldier—all that remained of a once thriving army—stood forever at attention though there was no officer to command him. Meredith only kept him because he was old and poor and had once, in his younger days, saved Punch from being eaten up by a ferocious teddybear. The pink lady doll sat in the parlor of the doll house all by herself. Meredith scarcely noticed her for her gaze fell upon Bobolink, the beloved clown doll with whom she had played ever since she was a baby. He smiled a crooked smile out of his red sansilk mouth and looked at her out of his faded blue eyes just as he always did.

"Bobolink," said Meredith, "I should like to take you with me because you're my oldest son and we've been together so many years, but really, since you spilled raspberry jam all over your suit at the last tea party you don't look respectable to go visiting and besides, Bobolink, you're the oldest and most dependable and you'll have to take care of the others while I'm away."

Bobolink smiled his crooked smile and looked at her out of his embroidery floss eyes just he always did and she knew that he understood.

"I think I'll take the baby," Meredith finally decided. "She needs me most, and she might be hard for you to take care of, Bobolink. Babies are particular." So saying, she jumped up and began to get her family ready to leave. She washed their faces and saw that their clothes were on properly and told them what to do and what not to do, for Meredith was one of those little girls who believe that when dollies are left by themselves they can walk

and talk and do just as they please. "And be sure that you mind what Bobolink says," she reminded them for the tenth time, "because I know that he will take good care of you," and kissing them all the way around, she ran downstairs to help Mother with the packing.

As soon as Meredith was on her way to the lake, Bobolink began his duties. He rocked the hammock for Raggety Ann. He rescued the three ten cent dolls who were nearly tipping out of the sail boat. He emptied the dust pan for Dinah and held the tin soldier's gun while he rested his arm. He was just about to sit down for a moment's rest when he heard the wee voice of the pink lady doll calling to him from the doll house.

"Bobolink," she said, "I want to grow, will you find out how I can?"

Bobolink looked troubled. Never had he heard of a dolly who wanted to grow. He himself was no taller than he was on the day he was made, and yet when he thought of it, he knew that Meredith was growing every year. He tried to scratch his forehead with his soft, fat hand. "Pink lady sister," he said solemnly, "I don't know anything about it, but I'll go out into the world and see," and off he started at once.

Bobolink walked along as fast as his wobbly legs would carry him until he met a black ant, carefully carrying a crumb through the rough grass.

"Mrs. Ant," he said, politely tipping his cap, "the pink lady doll wants to grow. Can you tell me how it is done?"

"A bit of work, a bit of work," said Mrs. Ant without stopping. "That's what I tell my children, and they never lack for bread in the winter. Perhaps your friend is lazy." She plodded on carefully carrying the crumb over the rough grass until she reached her home in the sand.

"Thank you, Mrs. Ant," said Bobolink and hurried back to the pink lady doll. "Mrs. Ant says a bit of work makes her children grow," he told her and stretched himself out on the floor quite out of breath.

"Oh, thank you Bobolink!" cried the little lady. "Every day I will make my match-box bed and dust my cardboard chair," and so she did, but she didn't grow.

"Oh, Bobolink!" she called one morning just as he was bringing Punch and Judy back from a walk around the play room, "won't you please go and ask someone else about growing?"

"Just a minute, Madam," he answered with a low bow, and as soon as Punch and Judy were busy with something else he started out into the world again. Before he had gone far he came upon a flock of sheep in the sunny meadow.

"Mrs. Sheep," he said, tipping his cap politely, "the pink lady

doll wants to grow. Can you tell me how it is done? Your children seem to be growing well."

"Yes indeed," said Mrs. Sheep. "My children are my pride and joy. A bit of play I tell them. See them scamper over the sunny meadow! They live in the sunshine and the sweet, fresh air. The pink lady doll is shut up in the house too much. Tell her for me to get out and play."

"Thank you, Mrs. Sheep," said the clown, "I shall tell her all you say," and so he did.

"What a good brother you are, Bobolink!" cried the pink lady joyfully. "Every day I will make my match-box bed and dust my cardboard chair. Every afternoon I will play on the green rug in the sunshine. That shall be my meadow." She did just as she had promised but she did not grow. "Bobolink, won't you try again," she pleaded. "I would rather grow than anything else in the world."

"Yes, little sister, I will try again," he answered, "just as soon as I hang Skeezix up to dry. He just fell into the bath tub."

He whistled a tune through his crooked red lips and set out gaily into the big world. This time he traveled far until he came to a big forest. The fragrance of balsam was in the air, and the pine needles made a soft carpet for his feet. Down the path he saw a big, black mother bear with her two cubs. Bobolink's faded blue eyes almost popped out of his head. His wobbly legs trembled until he could scarcely stand. All of a sudden he noticed something. The two little cubs were as fat as a roll of butter. "Whew," said the clown to himself, "that mother must know how to make her children grow," and forgetting his fear, he marched boldly up and asked her. Mother Bear was quite surprised to find herself talking to a clown doll in the middle of the forest, but as soon as Bobolink has complimented her babies and told her his story, she was full of sympathy and eager to help.

"Lots of quiet sleep, young man," she advised. "Why, our family sleeps all winter long, and you should see us put on fat in the spring after our long nap. Just tell your little sister that, and give our kindest regards." Bobolink could hardly wait to tell his good news to the pink lady doll.

"Thank you, clown brother," she said. "Every day I will make my match-box bed and dust my cardboard chair. Every afternoon I will play in the sunshine on my green rug meadow; and every night I will sleep long hours with my windows open," and so she did, but still she did not grow. She became so discouraged, so cross and so fretful that it looked as if she were going to make trouble for the whole doll family.

Bobolink was in despair. The pink lady doll was keeping him so busy that he found it necessary to neglect Eleanor's beautiful and expensive brown curls which should have been brushed every morn-

ing. He set out once again, determined to get more and better advice, and had just reached the front lawn when he heard Father Robin singing, "Cheer up, Cheer up, chee, chee!"

"What can you find to make you so happy, Cock Robin?" called Bobolink.

"The last one of my children has just learned to fly," sang the little bird. "My daughters are almost as big as their mother, and my sons will soon be as handsome as I."

"Oh," said Bobolink, wearily, "do you think you could help me with my troubles? The pink lady doll wants to grow and we can't seem to find out how it's done."

"Well now," said Father Robin kindly, "that's a shame, but I shouldn't wonder if my experience would help you a great deal. My wife and I raise a family every year. Just let me tell you the rule at our house. 'A cheerful heart and a sunny face,' we say to each other. I sing to my wife while she sits on the nest; I sing the babies to sleep in the evening; and every morning at sunrise the whole robin chorus sings its thanksgiving hymn. Tell the little lady to be happy and contented and I dare say she'll grow fast enough. Cheer up, cheer up, chee, chee!"

"Bobolink was more grateful than he could express as he ran back to the play room. The pink lady doll was crying on black Dinah's shoulder.

"Theah, theah, lamb," comforted the good old mammy, "heah comes yo' brothah with good news, I'll be bound."

The pink lady doll listened to Bobolink's story quietly. "Well, Bobolink," she said with a deep sigh, "I'll truly try. Every day I'll make my match-box bed and dust my cardboard chair; every afternoon I'll play in the sunshine on the green-rug-meadow; every night I'll sleep long hours with my windows open; and all the time I'll try to remember the Robin children and keep a cheerful heart and a sunny face." Thus the doll family became peaceful and happy once more, but still the little doll did not grow.

One day Bobolink stole out of the house without letting anyone know where he was going. He had a bright idea. He went straight to the school house where a group of children were having summer school. Stealthily he climbed up to the window sill and listened with both his ears.

"A bit of work, a bit of play,
And lots of quiet sleep—"

recited the children all together. That certainly sounded familiar, Bobolink thought to himself.

"A cheerful heart and a sunny face,
The health chores done at a merry pace—"

Bobolink was leaning so far into the window that he almost thought the teacher saw him. His cotton heart beat wildly. He jumped

to the ground and landing with a soft little thud, ran home as fast as he could go. "How I wish I could have heard the rest of it," he said thoughtfully, "but anyway, I learned something important. Little Sister!" he fairly shouted. "Now I have it! The health chores, that's the thing! Why didn't I think of it before? Meredith always does them."

"What are health chores, Bobolink?" said the pink lady doll, climbing up on his soft, padded knee.

"Why, health chores," said the clown as he smiled his crooked smile, "are the things Meredith does to keep healthy. Let's see—she brushes her teeth, and—drinks milk and eats carrots. That's all I can remember just now."

"Bring me some milk and carrots, Bobolink," said the pink lady doll, and she jumped down and danced a quaint little dance for him, singing as she danced, "Every day I will make my match-box bed and dust my cardboard chair. Every afternoon I will play in the sunshine on my green-rug-meadow. Every night I will sleep long hours with windows open. Always I will have a cheerful heart and a sunny face, and every day I will brush my teeth with a wee, wee toothbrush and drink a thimbleful of milk and eat a doll saucer full of carrots." She seemed so happy and she curtsied to him so daintily that Bobolink quite forgot how tired he had gotten with all his long journeys.

The pink lady doll did everything just as she had promised for as much as a week, but she did not grow. That night she sobbed herself to sleep in her little match-box bed.

About midnight, the fairy mother who loves and takes care of all the dolls and toys in all the world stole softly in beside the pink lady's bed. She saw the small pillow all wet with tears and put her cool hands tenderly on the little doll's forehead. "What is it, pink lady doll?" she whispered.

"Oh, Fairy Mother," sobbed the little lady. "Can I never grow? All these rules I have followed carefully,

'A bit of work, a bit of play,
And lots of quiet sleep,
A cheerful heart and a sunny face,
The health chores done at a merry pace—' "

"Why, my dear," said the fairy mother,

'That's the way the children grow,
Don't you know?
That's the way little children grow,'

but dollies—well, sawdust and cotton and china dollies just weren't made to grow that way. Besides, if you were to grow much taller, how could you live in the cozy little house Meredith has given you?

But listen, little pink lady, there are other ways of growing besides growing tall. You have worked and grown strong, you have played in the sunshine and grown healthy, you have slept and eaten as you should and grown happy and beautiful. See, you may borrow my silver looking glass. Your muscles are firm, your lips and cheeks are rosy, your eyes are sparkling, and your face is covered with sunny smiles. You cannot grow tall, but in trying you have grown beautiful, more beautiful than any of my children. Does that not make you happy?"

The little pink lady looked and looked. She could scarcely believe that the sweet and rosy face she saw was her own little self. At last she lay back on her pillow with a contented sigh. "Yes, I am happy, Fairy Mother," she said softly. "Kiss me good-night, and I shall go to sleep."

The fairy mother kissed her and said gently as she tucked the covers under her chin. "If you would keep your beauty do a kind deed every day, for of what use is beauty or health if it does not make others happy as well as ourselves?" and before the little lady had time to answer she stole out of the room as quietly as she had come.

The next morning familiar steps were heard on the stairs. Such a scurrying as there was in the play room! Every dolly jumped to his place so that, when Meredith opened the door, she found them all exactly as she had left them. How brown and strong she had grown and how glad they all were to see her.

"You dearest children!" she exclaimed, "I've thought about you every day. How I wish you could tell me all the things you have been doing!" She put the baby in her cradle and began playing with the others one by one until she came to the little pink lady. "Why, whatever has happened?" she exclaimed, quite bewildered. "You beautiful dolly! How can you be so lovely? Why you're prettier than Gretchen or Eleanor or anybody," and she hugged her so tightly that the pink lady doll almost lost her breath. "Bobolink, you certainly have taken good care of all the children," she said, taking him in the other arm. "Whatever would I do without you? Can't you tell me just this once what happened to make the pink lady doll so beautiful?"

Bobolink looked at her with his faded blue eyes just as he always did, and Meredith knew that he understood, but he only smiled a crooked smile out his red sansilk mouth and never said a word.

Roberta E. Foote. Used by permission of the Michigan Tuberculosis Association.

Where The Sand Man Got His Sand

Once upon a time, in a little village, the boys and girls of the town planned to have a very gay party. Now these children loved very much to play. Of course, that was not strange but what took

place was very, very strange and the people to this day have never forgotten what occurred on that day of the party so long ago.

These children so loved to dance and play that they decided that for once in their lives they did not intend to stop until they were ready. They said they were tired of being called by their parents to go to bed just when they were in the midst of a good time and so they planned how this night they would do as they pleased. For days they had thought of a plan and this was what they decided to do. It was really an awful thing even to think of doing. They knew that Morpheus visited their town each night and that he carried with him the crystal of fluid that he blew in tiny drops over the houses and fields and that soon each person and each animal and each flower was fast asleep. They decided he must be caught and his crystal flask must be taken away. Then they would never need to sleep again.

The day of the party came at last. About time for Morpheus to come with the crystal flask the children left their party and went to meet him at the far border of the town to catch him even before he could sprinkle one little drop on one single roof. He had no idea they could be planning any trick upon him and when they asked him to come with them to a queer cave near the sea he was glad to please them and just as he stepped inside, a tiny wire across the doorway tripped him and the crystal fell from his hand.

Tiny fingers seized the flask and all of the children fled and closed a heavy door, leaving Morpheus in the dark cave in the cliff. The child who had the flask ran on and on and on along the beach until he came to a great rock and there he broke the precious bottle and poured the fluid on the sand. Meantime the rest were eager to get back to the dance, so they scampered away to the village again and for hours they forgot about the awful thing they had done and about the broken flask.

No one called them to come home for the mothers and fathers were not sleepy and so did not look at the clocks. The stars came out and the electric lights were turned on making the town very bright so nobody thought about it being night. They danced and danced until almost morning and then they began to get hungry, but their legs were so tired that they felt they could never get home. Fathers and mothers had read and talked and sewed all night and rather wondered why they weren't sleepy. When the sun came up they began to think something must be very wrong. They ached all over—when mothers got the breakfasts nobody in the town was hungry for their stomachs felt queer as if they would not take care of food—children whined and their parents scolded—everyone had burning eyes and aching bodies.

Fathers and mothers gathered in groups on the sidewalks and in the stores to talk about it, for they could not understand what

had happened. Children huddled together and whispered about the broken flask and the cave in the cliff. No one in the entire town had slept a wink and no one felt any desire to sleep—but oh—how their poor bodies and heads ached. No parents thought of asking their children the reason for this and no child in the whole town dared to tell anything about what had happened. This was a most miserable time for everyone.

After several days and nights like this, the mayor and his counsel called all the people together. The town crier was so weak he could scarcely walk. Everyone was weak for they had stopped eating. The very choicest of dainty dishes stood about and spoiled for even the dogs did not eat—they were too weary even to bark. Cats stole no cream nor did they even try to catch the mice that crept out of their homes and lay down to get strength. No birds sang. They were even too weak to fly and hopped about on the ground—not even afraid of the cats. Flowers wilted and drooped. Everything was weary for sleep. The longer this kept up the more afraid the children became to tell their parents what they knew. They became dizzy and dull—they cried and their eyes smarted as if they were burned with fire. The whole town became so weary there was weeping everywhere and such sadness was never seen before in the whole world.

Each day seemed to last an age and each night they hoped sleep would come to them but their eyes would not close and soon an awful fear began to fill the place and everyone stayed up all night. Sleep, just sleep, became the most precious thing in the whole world. Rich men offered all their money for an hour of sleep. Wealth was of no value—no one cared for anything but sleep. The doctors had puzzled long over it and they became so ill they could no longer think. No one could think. People added their accounts wrong—they counted eggs wrong—their eyes were so tired that everyone tried to get glasses but the opticians were unable to work. No one went away from home and no one came so they did not know that in the other towns it was the same way. All over the world everyone was awake all the time. Poor babies wailed weakly, not knowing what was the matter.

As a final hope, the mayor offered a prize to any one who could tell what the matter might be. This was the prize—The person should be awarded all the sleep he wished for all the rest of his life or as many years as he wished. What a wonderful gift—worth more than all else in the world. The children gathered in the park and decided they must have this gift though they were ashamed to tell what they knew.

Slowly they began to march to the square in front of the city hall. They were glad to tell all they knew if only they might have sleep. Soon the mayor came out on the balcony to see what they

wanted for he never once guessed that they were to tell him such a tale as they soon told.

"What is it, my children?" said he, looking into their tired and very sorry faces.

Then their leader stepped forward, the very boy who had run with the precious vial. "Oh Sir Mayor," cried the boy, "we are very sad to tell you what we must say, but we have been afraid to say it before. We know what the matter is. We caught Morpheus, the sleep god, and hid him in a cave in the cliff, and we broke the magic flask that held the sleep fluid. The crystal is in pieces down by the sea and the fluid is soaked in the sand. Will you come with us to the cave where we hid Morpheus?"

All the villagers had gathered by this time and every one was so tired that they did not even think of scolding the children. In a long procession headed by the mayor and the children they started toward the cave. Even the animals and birds knew something was happening and followed the long line. First the great door was opened and there sat sad Morpheus—sad because he knew what his absence meant to the people and he looked at them in pity and asked where the flask was. Then they all looked at the boy who had run so far with the crystal and he hung his head and said, "Oh, Morpheus, I ran with the flask and broke it upon a stone and poured all the fluid on the sands." Sadly, the god Morpheus asked that they show him where it was broken. Again the procession started on to the shore where they found the tiny bits of crystal broken up with the sand. They searched until every piece was found and a grain sack carried by the miller was filled with the sand that lay close by.

Then, looking on the tired people, the wonderful dream man threw some sand into the air. It was so heavy it would not float off and close each ones' eyes in sleep but fell back upon the ground and did not touch them. Yet he knew the potion of sleep was in each grain of sand, so he dropped it on their eyelids and soon they were rubbing it into their eyes. Babies fell into a deep sleep, mothers lay down on the sand beside them—while children, fathers, uncles and grandfathers—aunts and grandmothers—cousins and everybody, with all the animals and birds, sank into a deep sleep.

On sped Morpheus with his bag of sand to take rest to a tired world. For days and days they slept and at last when they woke up, the mayor proclaimed, that, true to his promise, children should have all the sleep they wanted, for he had promised it to them.

Before this happened no one but children knew about Morpheus and the sweet sleep fluid but now everyone in the world knows about the sand man and his visits with his sleep sand and dreams. Today every mother tells her children about him, they love him dearly and beg him to come early and bring them enough sand for long, long sleep filled with wonderful dreams.

An oriole lives in our big tree,
And all day long, he sings to me,
The song that he sings is full of glee,
For I think he knows it's just for me.
I'm sure he tells of a swinging nest,
Where babies, wee, are lulled to rest,
Of blooming flowers and leafy trees,
Of butterflies and buzzing bees.

From: "A Collection of Health Stories," by Faith Elizabeth Kiddoo, Ypsilanti, Michigan. Courtesy of the author.

The Soap Making of Remember Biddle

"It may chance that you will not be able to return by Thanksgiving Day?" Remember Biddle asked with almost a sob in her voice.

A little Puritan girl of long ago was Remember, dressed in a long straight gown of gray stuff, heavy hobnailed shoes and wearing a white kerchief crossed about her neck. She stood in the door of the little log farm-house that looked out upon the dreary stretch of the Atlantic coast with Plymouth Rock raising its gray head not so very far away.

No wonder Remember felt unhappy. Her mother was at the door, mounted upon their horse, and ready to start away for quite a long journey as journeys were counted in those days. She was going with a bundle of herbs to care for a sick neighbor who lived a distance of ten miles away. It had been an urgent summons, brought by the post carrier that morning. The neighbor was ill, indeed, and the fame of Mistress Biddle's herb brewing was well known through the countryside.

She leaned down from the saddle to touch Remember's dark braids. The little girl had run out beside the horse and laid her cheek against his soft side. Her father was far away in Boston, attending to some important matters of shipping. Her mother's going left Remember all alone. She repeated her question,

"Shall I be alone for Thanksgiving Day, mother, dear?" she asked.

Her mother turned away that the little daughter might not see that her eyes, as well, were full of sorrow.

"I know not, Remember. I sent a letter this morning by the post carrier to Boston telling your father that I should wait for him at Neighbor Allison's and if I could leave the poor woman he could come home with me. I hope that we shall be here in time for Thanksgiving Day, but if it should happen, Remember, that you must be alone take no thought of your loneliness. Think only of how much cause we have for being thankful in this free, fertile land

of New England. And keep busy, dear child. You will find plenty to do in the house until my return."

Throwing the girl a good-bye kiss, Mistress Biddle gave the horse a light touch with her riding whip and was off down the road, her long, dark cloak blowing like a gray cloud on the horizon in the chill November wind.

For a few moments Remember leaned against the beams of the door listening to the call of a flock of flying crows and the crackling of the dried cornstalks in the field back of the house. Beyond the cornfield lay the brown and green woods, uncut, save by an occasional winding Indian trail. The neighboring cabins were so far away that they looked like toy houses set on the edge of other fields of dried cornstalks. Looking again toward the woods Remember shivered a little. She saw in imagination, a tall, dark figure in gay blanket and trailing feather headdress stalk out from the depths of the thicket of pines and oaks. Then she laughed.

"There hasn't an Indian passed here since early in the summer," she said to herself. "Mother would not have left me here alone if she had not known that I should be quite safe. I will go in now and play that I am the mistress of this house, and I am getting it ready for company on Thanksgiving Day. It will be so much fun that I shall forget all about being a lonely little girl."

It was a happy day. Remember tied one of her mother's long aprons over her dress to keep it clean, and began her busy work of cleaning the house and making it shine from cellar to ceiling. She sorted the piles of ruddy apples and winter squashes and pumpkins in the cellar, and rehung the slabs of rich bacon and the strings of onions. As she touched the bundles of savory herbs that hung about the cellar walls, Remember gave a little sigh.

"I see no chance of these being used in the stuffing of a fat turkey for Thanksgiving," she said to herself. "It may be that I shall have to eat nothing but mush and apple sauce for my dinner, and all alone. Ah, well-a-day!" She began to sing in her sweet, child voice one of the hymns that she had learned at the big white meeting-house:

"The Lord is both my health and light;
Shall men make me dismayed?
Since God doth give me strength and might,
Why should I be afraid?"

As she sang, Remember lifted a bucket of soft soap that stood on the cellar floor and tugged it up to the kitchen. Then she went to work with a will.

Several days passed before Remember had cleaned the house to her satisfaction. On her hands and knees she scoured the floors, her rosy hands and arms drenched with the foaming soapsuds. After-

ward she sprinkled sand upon the spotless boards in pretty patterns as was the fashion in those days. She swept the brick hearth with a broom made of twigs, and she scoured the pewter and copper utensils until they were as bright as so many mirrors. She washed the wooden chairs until the bunch of cherries painted upon the back of each looked bright enough to pick and eat. She dusted the straight rush-bottomed chairs and the settle that stood by the side of the fireplace. Even the tall clock in the corner had its round glass face washed. Then Remember stood in the center of the kitchen looking at the good result of her work.

"My mother, herself, could have done no better!" she thought. Then she looked at the keg that had held their precious store of soft soap. There was no soap to be bought in those long-ago days; the Puritans were obliged to make their own.

"I have used up all the soap. Oh, what will my mother say at such waste? What shall I do?" Remember said, in dismay.

She sat down by the fire and thought. Suddenly she jumped up. A happy plan had come to her.

"I will make a mess of soap," Remember said to herself. "I have helped mother to make soap many a time and I can do no more than try. It is yet some days until Thanksgiving and I should be sadly idle with nothing more to do, now that the house is put so well in order."

The soap-making barrel, a hole bored in the bottom, stood in a corner of the cellar; it was light enough so that Remember could easily handle it and she was strong for her twelve summers and winters. In the bottom of the barrel she put a layer of clean fresh straw from the shed and over this she filled the barrel as far as she could with wood ashes. Then she rolled, and tugged, and lifted the barrel to a high bench that stood by the kitchen door, taking care that the hole was just above a large, empty bucket. Then Remember brought pails of water and, standing on a stool, poured the water into the barrel until it began to drip down through the ashes and the straw into the bucket below. It looked rather dirty as it filtered down into the bucket but Remember took care not to touch it with her fingers for she knew that it had turned into lye. Late in the afternoon Remember took out a hen's egg and dropped it into the bucket to see what would happen.

"It floats!" she said. "Now I am sure that I made the lye right and I can attend to the grease to-morrow."

Remember had to start a huge fire the next day and she got out the great black soap kettle, filled it with the lye and hung it over the fire. Into this she put many scraps of meat fat and waste grease that her mother had been saving for just such a soap-making emergency as this. It bubbled and boiled and Remember carefully skimmed from the top all the bones and skin and pieces of candle wicking

that rose, as the lye absorbed the grease, and cooked it into a thick, ropy mixture. It looked very much like molasses candy as it boiled and after a while Remember knew that it was done. She lifted the kettle off the fire and poured the thick, brown jelly, that was now good soft soap, into big earthenware crocks to cool.

"I made the soap quite as well as my mother could," Remember said to herself with a great deal of satisfaction as she put the crocks, all save one, in the cellar. This one she kept for use in the kitchen.

"There's not another thing that I can think of to do," Remember said now. She looked out of the window at the bleak, bare fields behind which the November sun was just preparing to set in a flame-colored ball. "Here it is the afternoon before Thanksgiving Day and mother and father are not home yet, and we haven't anything in the house for a Thanksgiving dinner!" She looked toward the woods now. What was that?

A speck of color that she could see in the narrow footpath between the trees suddenly came nearer, growing larger and brighter all the time. Remember could distinguish the gaudy blanket, bright moccasins, and feather headdress of an Indian. Stalking across the field, he was fast approaching their little log house which he could easily see from the woods and which seemed to offer him an easy goal. Remember covered her face with her hands, trying in her terror to think what to do.

The bolt on the kitchen door was but a flimsy protection at best. Remember knew that the Indian would be able to wrench it off with one tug of his brawny arm. She knew, too, that it had been the custom of the Indians who were encamped not far off to take the children of the colonists and hold them for a high ransom.

"The white face takes our lands; we take the papoose of the white face," they had threatened, and they were cruel indeed to the children whom they held, especially if their parents were a long time supplying the necessary ransom. But it had been so long now since an Indian had been seen in their little settlement, that Remember's mother had felt quite safe in leaving her.

Remember looked now for a place to hide. There was none. The cellar would be the first place, she knew, where the Indian would look for her. The tall clock was too small a space into which to squeeze her fat little body; and there was no use hiding under the bed for she would be dragged out at once. Remember turned, now, hearing a footstep. The Indian, big, brown, and frowning had crossed the threshold and stood in the center of the room. His blanket trailed the floor; over his shoulder was slung a pair of wild turkeys he had killed. Remember trembled, but she faced him bravely.

"How!" she said, reaching out a kind little hand to him. The Indian shook his head, and did not offer to shake hands with the little

girl. Instead he pointed to the door, motioning to her that she was to follow him.

Remember's mind worked quickly. She knew that Indians were fond of trinkets and could sometimes be turned away from their cruel designs by means of very small gifts. She ran to her mother's work basket and offered him in succession a pair of scissors, a case of bright, new needles, a scarlet pin-cushion, and a silver thimble. Each, in turn, the Indian refused, shaking his head and still indicating by his gestures that Remember was to follow him.

Now he grasped the little girl's hand and tried to pull her. There was no use resisting. But just as they reached the door the Indian caught sight of the crock of soft soap—dark, sticky, and strangely fascinating to him. He stuck one long brown finger in it and started to put it in his mouth, but Remember reached up and pulled his hand away. She shook her head and made a wry face to show him that it was not good to eat.

"How?" he questioned, pointing to the soap.

Remember pulled from his grasp. Pouring a dipperful of water in a basin, she took a handful of the soap and showed the Indian how she could wash her hands. As he watched a look, first of wonder, and then of pleasure, crept into his face. He smiled and looked at his own hands. They were stained with earth and sadly in need of washing. Remember refilled the basin with water and the Indian, helping himself to a huge handful of the soap, washed his hands solemnly as if it were a kind of ceremony.

As Remember watched him, her heart beat fast indeed. "As soon as he finishes he will take me away," she thought.

Slowly the Indian dried his hands on the towel she gave him. Then he picked up the crock of soft soap. He set it on his shoulder. Pointing to the pair of turkeys that he had laid on the table to show that he was giving them to Remember in exchange for the soap, he strode out of the door and was soon lost to sight in the wood's path.

Remember dropped down in a chair and could scarcely believe she was really safe. A quick clatter of hoofs roused her. She darted to the door.

"Father, mother!" she cried.

Yes, it was indeed they; her father riding in front with her mother in the saddle behind.

"Just in time for Thanksgiving!" they cried as they jumped down and embraced Remember.

"And I'm here, too, and we have a pair of turkeys for dinner," Remember said, half smiles and half tears, as she told them her strange adventure.

From "Boys and Girls of Colonial Days" by C. S. Bailey. Used by permission of A. Flanagan Company.

CHAPTER XVIII

HEALTH EDUCATION BY CORRELATION

"The method of making health-teaching general presents greater possibilities than can be secured by teaching health as a separate subject. How such combinations can be effected can be determined by surveying the type of material now being taught in other fields and selecting from it that which can be taught from the health standpoint." CAROLYN HOEFER.

Health, the basic correlator. There is probably no other school subject that will more easily correlate with all the other subjects than health. The development of an extensive permanent health exhibit of charts and models, as well as the assembling of the material on which this course of study is based has been made possible through the co-operation of the departments of art, manual training, domestic science, domestic art, chemistry, physics, agriculture, biology, English, history, Bible and education.

If a college of a thousand students can successfully enrich each of its departments by correlation with each of its other departments to the extent that information gained in one department will function in another department, then correlation should be an excellent means for unifying grade work. That this is true has been thoroughly demonstrated in our practice school, and in other progressive school systems throughout America.

The hope that perhaps other teachers and schools may see and accept correlation of health work with other school subjects as a practical means for simplifying and vitalizing an overwhelmingly crowded curriculum has been the chief excuse for this book, which pleads for "health, strength, joy," as the sane basis for all educational progress.

Since so much space is given in this book to descriptions of definite projects which correlate health with various subjects in the curriculum, this discussion will content itself with a brief suggestive outline showing when and how health work may be correlated with other school subjects.

I. *English and health* may be correlated by

a. Health stories told by teacher and related or discussed by pupils.
b. Health stories written or told by pupils.
c. Dramatization of health ideas and ideals.
d. Health pantomimes.
e. Health compositions, debates, essays, reports, poems, creeds, and newspaper articles.
f. The personal health problems of some of the masters of literature and their influence on their works, for example, Field, Milton, Poe, Scott, Roosevelt.

II. *Writing and health* may be correlated by

a. Health copies in form of mottoes, slogans, songs, poems, creeds, etc.

III. *Arithmetic and health* may be correlated by

a. Making measurements for health problems in manual training for sand-tables.
b. Problems in arithmetic on disease and accidents.
c. Blackboard relays.

IV. *History and health* may be correlated by

a. Study of development of certain industries and relationship of public and personal health problems.
b. Health conditions and problems in different periods.
c. Study of the lives of the great benefactors of the race, as Benjamin Franklin, Florence Nightingale, Pasteur, Jenner, Reed, Gorgas.

V. *Geography and health* may be correlated by

a. Study of home conditions, school and civic environments.
b. America in connection with the health movement.
   (1) What American Government did in health work in Cuba.
   (2) What American Government did in health work in Philippines.
   (3) What American Government did in health work in Panama Canal Zone.

(4) What American Government did in health work in World War, etc., etc.

(5) Where in the U. S. are American health workers busiest?

(6) What are some other health organizations in America? What are they doing and where are they doing it?

c. What other nations have met grave health problems? (See rebuilding of Vienna and Hamburg, as given in Dr. Charles A. McMurray's Type Studies.)

d. Sources of food, transportation of food, the care in transit with regard to health of man.

VI. *Art and health* may be correlated by

a. Health calendars.

b. Health posters.

c. Health friezes.

d. Health booklets.

e. Paper folding, as paper drinking cups, napkins for school lunch, wrapping a sandwich, making furniture for hygienic home, and sand-table problems.

f. Clay modeling of fruits and vegetables good for children.

VII. *Manual training and health* may be correlated by

a. Fly traps and fly swatters.

b. Drinking cup cabinets.

c. Lunch cabinets.

d. Book props.

e. Window boards.

f. Hygienic homes and furniture.

g. First aid and home nursing problems; as cover-cradles, medicine cabinets, knee and back props.

h. Sanitary toilets.

i. Playground equipment.

VIII. *Domestic art and health* may be correlated by

a. Study of hygienic clothing and its care.

b. Study of hygienic household linens and their care.

c. Making of simple layette for needy baby.

d. Making of simple clothes for needy small children.

e. Making of simple household linens for first aid and home nursing demonstrations.
f. Study of sweat shop problem.
g. Study of cotton, silk and other materials, and textile factories.
h. Bean bags, indoor baseballs, nets for tennis, and nets for volley and basket ball (twine problems).
i. Bandages, etc.

IX. *Domestic science and health* may be correlated by
a. Study of food values, etc.
b. Care of foods.
c. Selection of foods.
d. Preparation of foods.
e. Serving of foods.
f. School lunch, its preparation and serving by pupils.
g. Menus.

Domestic science is, in fact, so completely a health subject that it, like civics and health, nature study-agriculture and health, safety education and health, physical education and health, biology and health, may be at any time and in any course, one and the same. For further discussion of the correlation of health education with other subjects, the reader is referred to the following list of publications.

Hoefer, Caroline. "Increasing the Efficiency of Health Instruction in the Public Schools," Elementary School Journal, Sept. 1921. "Methods of Health Instruction for the Seventh Grade," May 1922. (Reprints may be had from the Elizabeth McCormick Memorial Fund, Chicago.)

Hull, Thomas G. "Suggestions for Teaching Health in High School Biology Courses," Illinois Health News, Feb. 1923.

Payne, E. George. "Education in Health," Lyons and Carnahan, Chicago, 1921.

State Syllabi

New York Physical Education Syllabus, Board of Education, Albany, N. Y.

New Jersey Course in Physical Training for Grades, 1–6. Trenton, N. J.

Oregon Safety Education Syllabus, Department of Education, Salem, Ore.

Ohio Course of Study in Hygiene, Department of Education, Columbus, O.

PART II

Courses of Study for the Grades

Primary Grades
Intermediate Grades
Junior High School
Senior High School
Appendix

INTRODUCTION

To the teacher. The writer wishes to emphasize the fact that in the study of health programs the teacher should have an open but questioning attitude toward both material and methods suggested. No course of study, no matter how successfully tested in one school, should be accepted without careful readjustment to fit the specific needs of the particular school in hand. What will stimulate and hold one group often will not interest another group, much less meet its needs. Adaptation must always be the key note in successful application of any course of study in health.

To be in a position to adapt or to evolve a successful program a teacher must be in possession of certain definite facts relating to her own problem. As previously stated, the only way that she can get these facts is by careful and tactful study (survey) of the four sided problem she has to solve, namely (1) the needs of the community in which she is to teach;* (2) the needs of the school plant that she is to use; (3) the needs of each individual child she is to teach, and (4) her own needs (preparation). With these facts before her, together with the best suggestive health education programs she can find, she is in position to outline her own course of study.

Health can and should be taught as a regular subject in every grade, and there should be a definite time allotment for it in the school program. The length of the class period for this as for other subjects will vary for the different grades. However, if an excellent opportunity arises in the elementary school for correlation of health with another subject as art, biology or geography, the correlation should be used and the health period for that day given over to another subject.

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*For survey outlines see Chapters IV, and V.

CHAPTER XIX

INTRODUCTION TO THE PRIMARY GRADES

The physiological needs of the primary child. The biological and physiological needs of the child are inseparable in real life, but for discussion it may simplify matters to note separately the chief characteristics of each. Physiologically, the children of primary age, 6-9 years, are passing through a period of rapid growth of the body, with slight retardation during the first year of school life, and another short period of retardation or regression between 8-9, during the second dentition.

The primary age child is passing through a period of distinct motor activity wherein the coordination of the large muscles is all important and should be cultivated in all forms of activity from games of chase to mastery of the tools of education. This need for activity is expressed by a natural interest in climbing, in running games, and in all types of rhythmic games. The child's instinctive tendency for rhythm is shown in his fondness for repetition in all forms of play, story, poetry, paper cutting, etc.

The teacher should remember that the muscles of the primary grade child are not yet ready for the finer coördinations. This is particularly true of the eyes, and great care should be taken to protect them from the strain of close, fine work. The type of all texts should be large, clear and on dull surfaced paper, the handwork also should be planned to protect the eyes. In writing the emphasis should be laid for the first grade on blackboard work and on large type pencil work done on tablets with wide spaced lines. Many teachers are using most successfully the play of making "Humpty Dumpties" and "The rat ran up the clock." The addition of these in number relays afford another opportunity for the development of the coördination of the larger muscles. For the second and even the third grades, there is still need for protection of the eyes

and emphasis should continue on play and construction work that will develop the needed coordination of the larger muscles.

The mental life of the primary grade child. Mentally, children are strongly individualistic when they enter school, and throughout the primary grades are groping as Dr. Bonser says "in a more or less confused mass of ideas and feelings about objects and activities. Nature and social life with all their complex activities are all about them, but they are conscious of few details. Their education is largely a problem of noting and appreciation of their worth, increasingly numerous facts and relationships as these may be made to increase their range, variety, and richness of experience." Dr. Johnson* tells us that at the beginning of the school period the child's "sensory knowledge is far in advance of his judgment. Reasoning is still a matter of association resulting frequently in ludicrous and false inferences. It is a guessing period and is pre-eminently a time of suggestibility and imitation. The imagination is particularly active, often leading to childish lies."

The interest of the primary child is varied, there is a strong interest in nature, plants, pets, crude construction, sewing, cooking, exploring, collecting and hoarding, in dancing, rhythmic plays, counting and measuring. During this entire period the sensory and motor activities of the child are prominent, but his "interest in motor activity is shifting from interest in activity to interest in results," † and "consciousness of increasing power and skill gradually awakens interest in competition." †

There is a rich opportunity for sense training in the primary grades. To quote Dr. Johnson again, "The child's ambition is often quite beyond his skill, but his efforts are worthy of respect and encouragement." The spirit of cooperation also is slowly developing and should be carefully nourished. Both the playground and the socialized recitation offer opportunities for the development of this fundamental characteristic of right living which should be constantly used. With these needs and interests before the teacher the next step is to apply them to the work in hand, which in this instance is health work.

The application of health work to physiological and psychological needs of the primary child. To apply the law of

*Johnson, George E. "Education by Plays and Games." Ginn & Co., Boston. Pp. 68-69.

† *Ibid.*

readiness, the primary grade child is not particularly interested in knowledge of health principles, "Health for health's sake." Therefore health instruction as instruction is largely a waste of time. The child at this period is interested in doing things. His interest can be stimulated in all the health habits if they are motivated by stories, dramatizations, drills and awards. Since health education is primarily interested in health training—the development of healthful behavior—the formation of health habits should receive first attention in all health instruction, especially in the primary grades.

The primary grade teacher must remember that to develop a habit in a child, the child must be given an opportunity to practice "the precise" habit wished. This is particularly applicable to health work and great emphasis should be placed on the performance of personal habits of cleanliness, neatness, obedience, orderliness, carefulness, kindness, courtesy, consideration of others, loyalty, sufficient sleep in well ventilated rooms, outdoor play, fresh air in home and school, and correct food habits. The successful teacher of health not only believes this principle to be true but she uses every available opportunity and develops new opportunities for her pupils to practice these habits.

To prevent monotony of instruction, in the formation of health habits, the author has given a different approach for the development of health habits for each grade wherein these habits are repeated as a necessary part of the training, but with a new goal. This has been found to be thoroughly practical, and the approaches and goals given have served to keep the children so enthusiastically interested in health work that they frequently ask for a health lesson.

In all three of the primary grades the fundamental idea is to learn to play the "Health Game." The rules of the game are introduced by health stories, playlets, demonstrations, and pictures. In the first grade, the work centers around the family, home duties and nature study—flowers, trees, birds, domestic animals and pets. In the fall, their club work is organized into "Mother's Helpers," in the spring it is developed into a "Band of Mercy,"* which further stimulates their interest in the nature study which is the basic correlation with health work in the first grade. In the second grade, the central idea is to develop into "Good Americans," while in the third

* See Page 208.

MARCH

SUN	MON	TUES	WED	THUR	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11 ★
12	13	14 ★	15 ★	16 ★	17 ★	18 ★
19	20	21 ★	22	23 ★	24 ★	25 ★
26	27	28 ★	29 ★	30 ★	31 ★	32

Individual Health Calendar for Morning Inspection
Made by Second Grade Pupil

grade the approach is "Safety First," and the goal to be a "Safety Scout."

Various awards are used to stimulate interest in the primary health work. Gold stars and buttons have been found to add great zest to the "Health Game." The first grade receives gold stars for perfect morning inspection record throughout the first semester. Each child makes his own calendar which is hung within his reach so that he may put on his own stars. In the spring, the Humane* buttons are given after certain acts of personal cleanliness and kindness have been performed. The second grade children receive gold stars also. Their award in the spring is a "flag button" for all "Good Americans" who have learned to be clean, careful, thoughtful of others, etc. The classroom honor roll with a flag for every perfect week also adds interest. The third grade also likes gold stars for morning inspection. An honor roll with white paper or green paper Greek crosses for a perfect week of personal habits of cleanliness, etc., to which is added some "safety deed" is used. "Safety buttons" are their awards in the spring. These awards are given with due ceremony. With the many minor projects linking up the major project-problems interest is kept constantly high in the performance of health habits.

The varied approach and goals with the use of different subject matter (stories, etc.,) are of value to the school that has a teacher to each grade, for it gives her a field of her own, and also for the school with only one teacher, for the first two, three or four grades. The teacher of two or more grades may alternate or rotate the course of study. If she is teaching two grades, the first and second, she may use first grade material for the first year, and for the second year she may use second grade material, and use like alternation with the third and fourth grades. If the teacher is teaching three or four grades she will find it of distinct help to rotate the work, that is, use—first year work first year, second for second year, and so on. This will simplify the class-room program and will also prevent the stultifying repetition that frequently occurs when a teacher of one or more grades makes an effort to install health work.

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*American Humane Education Society, 180 Longwood Avenue, Boston 17, Mass.

CHAPTER XX

FIRST GRADE COURSE OF STUDY

First grade problems. The life of the first grade child is one of constant adjustment. First, he must adjust himself to the change from probable "Kingship" in his small group to a position of one of the many equally important members of his class. Second, he must adjust himself to coöperative group activities. This is difficult because he is distinctly individualistic. Third, he must learn to conform to a certain extent to classroom procedure which is in direct contrast to his accustomed play.

Happily little folks are no longer tied, figuratively speaking, to uncomfortable seats for criminally long hours. Their need for physical activity and rest are met by the newer primary methods which follow closely the best kindergarten ideas. However, the parent of the beginner is wise if she makes a personal visit to the first grade teacher and to her class-room before entering her six year old child. If the training or temperament of the teacher is not suited or if there is an overcrowded condition in the first grade room, or if one teacher is trying to teach a large number of children in more than one grade, the child will invariably be better off at home. If the child is taught at home he will quickly make the grade of his mental age after the second dentition is completed, at about the eighth year; that is, if he is wisely guided at home and has children near his own age with whom he may play.

The first grade teacher. Fortunately, the day when "just any teacher is good enough for beginners," is passed. The teacher for "beginners" today, must be especially trained for the happy task of socializing the little child and she must also have certain personal qualifications. The paramount personal qualifications of a good first grade teacher in order of their importance are love for little children, understanding interest in their daily lives, cheerfulness, tactfulness, courtesy, patience. She should also have enough imagination

and initiative to vitalize her daily work. In fact, there is no other grade in school where the right teacher in every respect is more needed than in the first grade. Here the teacher must deal with the plastic child and his myriad adjustments in this, his first touch with the outside world. The real first grade teacher understanding all these problems, either consciously or unconsciously, uses rare tact in the selection of stories, project problems, games for action and rest, songs that will soon win the child's complete confidence and that will promote his right development.

Methods and material for teaching of health in the first grade. In the first grade ideal methods are best carried out with a small group; but the skillful teacher can work wonders with as many as forty children. The material or subject matter for health, like that of other subjects, in the first grade should be drawn from the child's experience. Since this centers around the home, it is wise to make the family, family duties, interests, pets, etc., the foundation for organization of a course of study in health. The use of this plan for the general organization for the first grade course has been so ably presented by Miss Wells in "The Project Curriculum," by Miss Krackowizer in "Projects in the Primary Grades," and also in the History Section of the Baltimore County Course of Study, that it is useless to take time for restating the principles involved.

The details of application of health ideas through family activities is given in the major and the minor health project problems under the heading of "procedure" in first grade outline for health work. It will be noted that the approach to this is through the child's instinctive tendencies—play and imagination concretely expressed in the "Health Game." They enjoy this thoroughly and play the game with understanding and success. As Dr. Bonser says: "The motives for carrying out the various projects so strongly lay hold upon the children that interest and effort become one in attacking and solving the problems necessary to the completion of the projects."

COURSE OF STUDY IN HEALTH FOR THE FIRST GRADE

Central Correlation: (1) Home Life and Health,
(2) Nature Study and Health.

Age 6–7 years.

Time Division

I. Instruction and Training

Ten minutes daily morning inspection.

Two periods each week. 15 minutes each, direct health instruction or training (drills, etc.).

One period each week, English correlation—health stories (told by teacher and retold, made up, or dramatized by pupils) health poems, rhymes, creeds, slogans, and mottoes.

One period each week, art correlation. (Health booklets, posters, paper folding, cutting, etc.)

One period each week, nature study correlation. (Study of habits and care of pets, domestic animals, birds.)

Note: Opportunities for correlation with numbers, music, and other subjects may be utilized as they occur.

II. Physical Exercise

Six minutes, three two-minute relief drills, daily between class periods. (Open windows.) Coats off.

Nine minutes daily, rhythmic or story play (out-doors if possible, open windows if indoors).

30 minutes "Big Recess," given over to supervised games and free play.

Note: Formal gymnastics are not used in primary grades except for specific corrective work.

Aims and Purposes

General Aim

To develop personal health habits of cleanliness, neatness, carefulness, orderliness, obedience, and kindness, by close correlation with home life and nature study.

Teacher's Aim

(1) To make individual health survey of every pupil and to keep accurate data on progress of each pupil and also of the class work.

(2) To train each child in personal health habits and to guide his interest so that he will acquire an hygienic attitude of mind.

Pupil's Aim

To learn to play the "Health Game."

APPROACH FOR LAUNCHING THE HEALTH WORK

Suggestions for Launching the Health Work

The "Health Game" may be introduced by the following series of questions which lead up to interest in a new game:

"How many of you would like to learn to play a new game? A game that all the children in America are going to play? A game that even mother and father will join you in playing? All who wish to play —Hands up! What is it?—Well, it is the 'Health Game.'"

"I believe that all of you know something about it already, so I am going to see if you can't tell us how to begin after I tell you a story. (Tells story of "The Little Toy Soldier" from "Health Training in Schools.") Now, who can tell me one rule for the 'Health Game?' Yes, John, to 'be clean' is one of the rules of the game."

Each following day a story may be told from which another rule of the "Health Game" is learned. As rules are evolved they may be written on the board by the teacher in terse, simple language as "Be Clean," "Drink Milk," etc. When the complete set is finished a poster may be made with the rules plainly lettered on it, to be tacked on the wall for reference. Flash cards can be made from the words in the rules. These serve as English correlation. The enthusiasm for the game will be kept up by the awarding of a "gold star" daily to each child who has a perfect record at morning inspection.

Thought Content

Personal Health Habits in the Home

Developed by playing the "Health Game" both at home and at school.

I. **Cleanliness and Neatness of Person.**
   A. Body (skin).
      1. Warm bath more than once a week.
      2. Bathe face, neck and ears daily.

3. Bathe hands.
   a. Before eating.
   b. Before going to school.
   c. After going to toilet.
   d. Before going to bed.
   (The clean hand habit also means keeping hands away from entire body, sex organs, mouth, eyes, nose and ears.)

B. Hair.
   1. Shampoo every two weeks. (Pantomime of washing hair.)
   2. Brush daily with clean brush. (Song: "This is the way I brush my hair, brush my hair, brush my hair," tune, "Mulberry Bush.")

C. Nails. (Keep clean and short.)
   1. Finger nail drill—fold a small square of paper into pointed instrument for cleaning finger nails.
      a. Demonstrate.
      b. Two monitors collect soiled papers in waste paper baskets.

D. Teeth.
   1. Brush before going to bed.
   2. Brush on rising and after eating if possible.
   3. How and where to keep brush.
   4. Tooth brush drill. (Demonstration, practice.)

E. Nose.
   1. Clean handkerchief.
   2. Cover sneeze and cough.
   3. Handkerchief drill. (Demonstration, practice.)

F. Bowel movement.
   1. Daily.
   2. At regular hour.
   3. Remember to bathe hands after going to toilet.

G. Clothing.
   1. Clean clothes, particularly those next to skin.
   2. Day clothes (care).

3. Night clothes (care).
4. Rain clothes (care).
5. Bed clothes (turn back to air).

H. Fresh air, sleep, outdoor play.

1. Windows open while sleeping long hours.
2. Playing outdoors every day.
3. Ventilation of schoolroom.

I. Food.

(Practice in correct habits of eating as eating slowly. Thorough mastication should be stressed throughout the year.)

1. Drink clean milk. (No tea, coffee, coca-cola nor alcohol.)
2. Good foods for children—vegetables, fruits, cooked cereals, brown bread, butter, simple desserts. Visualized recitations followed by posters of good food made by children from magazine cutouts.
3. Do not exchange partly eaten food. Why?
4. Use individual drinking cups, and own napkin. (Teach children how to make paper drinking cups.) (Teach how to fold and cut tissue napkins for school lunch.)
5. Simple care of food in home—refrigeration, protection from flies, etc.
6. Wash all uncooked food. (Demonstration of dirt on unwashed apple.)

II. Orderliness and Obedience vs. Disorderliness and Disobedience.

To prevent:

A. Common accidents in the child's home environment.

1. Falls (causes).
2. Burns and fires (causes, how to prevent).
3. Cuts and other wounds (simple treatment—clean cloth, etc.)
   a. Danger of playing with knives, pointed scissors, etc.

B. Common accidents in the child's environment. Discussion of any accident situations that may need attention in school-room, on play-ground, on way to and from school and at home.

III. Good Manners.

A. Table manners.
   1. A good place for needed discussion of manners is given at the mid-morning lunch of two crackers and a half pint of milk which is taken direct from bottle through a straw, and again at the hot school lunch.

B. Courtesy to elders.

C. Courtesy to each other.

IV. Kindness, Helpfulness, Happiness.

A. By example of teacher.

B. By stories.

C. By care of pets. (Cat, dog, canary, rabbits.)

D. The care and need of flowers, grass, trees. (Water, air, sunshine.)

E. The school and home garden. (Value of vegetables and fruit in our diet.)

F. Care of domestic animals and fowls—cow, horse or pony, goat, chickens, etc.

G. Study of pets, domestic animals, birds. (Correlated with review of their own personal habits.)
   1. Study of their usefulness to man.
   2. Their clothing (covering).
   3. Their shelter.
   4. Their food.
   5. How we can add to their happiness.

H. How to relieve suffering.

I. Helpfulness at home and school.

SOME OF THE STORIES USED IN FIRST GRADE HEALTH

Cleanliness

"The Lovely Bird" from "Cho-Cho and the Health Fairy."
"Billy Boy." *
"The Pig Brother" from "The Pig Brother," Laura Richards.

*See "Health Training in Schools." National Tuberculosis Association, New York City.

"The Little Fairies" from Jones' "Keep Well Stories" (clean hands).

"The Magic Pearls." *

"The Cotton Baby" * (for use of handkerchief).

Good Manners

"The Fairy's Party" from "Cho-Cho and the Health Fairy."

"Why the March Hare is Mad" (children were so cross).

Keeping Pencils and Other Objects Out of Mouth

"Billy's Pal." *

Sleep

"The Wake-Up Story." *

Fresh Air

"The Two Little Plants," "Keep Well Stories"—Jones.

"How the Holly Berry Almost Lost It's Red Cheeks." *

"The Fresh Air Fairy" from "Rosy Cheeks and Strong Heart" —Andress.

Food

"The Boy and His Pets." *

"To whom Shall We Give Thanks?" † (Drinking water on rising.)

"The Cow." †

"The Story the Milk Told Me." †

"The Little Red House with No Doors and a Star in the Center." ‡

Stories from "Cho-Cho and the Health Fairy," American Child Health Association, 370 Seventh Avenue, New York City.

Christmas Story

"Danny's Christmas Seal." See page 227.

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* "Health Training in Schools." National Tuberculosis Association, New York City.

† "In the Child's World." Poulsson, Milton Bradley Co., Chicago.

‡ "Stories for Sunday Telling." C. S. Bailey, Pilgrim Press, Boston.

Flower Stories

"Fanciful Flower Stories" by Madge Bigham.

Carefulness and Orderliness

"Fairy Careful and Fairy Careless." *

Animal Stories

"The Lion and the Mouse"—Aesop.
"Out of the Nest"—More Mother Stories.
"Dust Under the Rug." *
"Dumpey, the Pony"—More Mother Stories.
"Mrs. Thrifty Ant's Fall"—Merry Animal Tales.
"Blackie at Madison Square"—Merry Animal Tales.
(For additional stories, poems, etc., see supplementary reading and teachers' reference list.)

Some Poems for Use in First Grade

From Stevenson's "The Child's Garden of Verse," "Bed in Summer," "A Bird with a Yellow Bill," "My Bed is a Boat," "The Cow," "The Sun's Travels," "The Marching Song," "The Land of Nod," "The Land of Counterpane," "Time to Rise," "Escape at Bedtime," "Goodnight."

From Taylor and O'Keefe's "The Original Poems and Others," the following are suggested: "Rising in the Morning," "Going to Bed at Night," "Getting Up and Going to Bed," "Washing and Dressing," "Dirty Jim," "Pretty Cow," "The Farm."

From Jones' "Keep Well Stories," "The Six Best Doctors."

Gibbs, "The Children's Book of Food Verses." (See chapter on Material.)

Songs for Use in First Grade

"The Tea Kettle's Song," Gaynor.
Health Songs, see pages 217–220.
"Dietary Ditties and Other Songs"—Jones and Gibbs.
Health Songs, National Tuberculosis Association, New York City.

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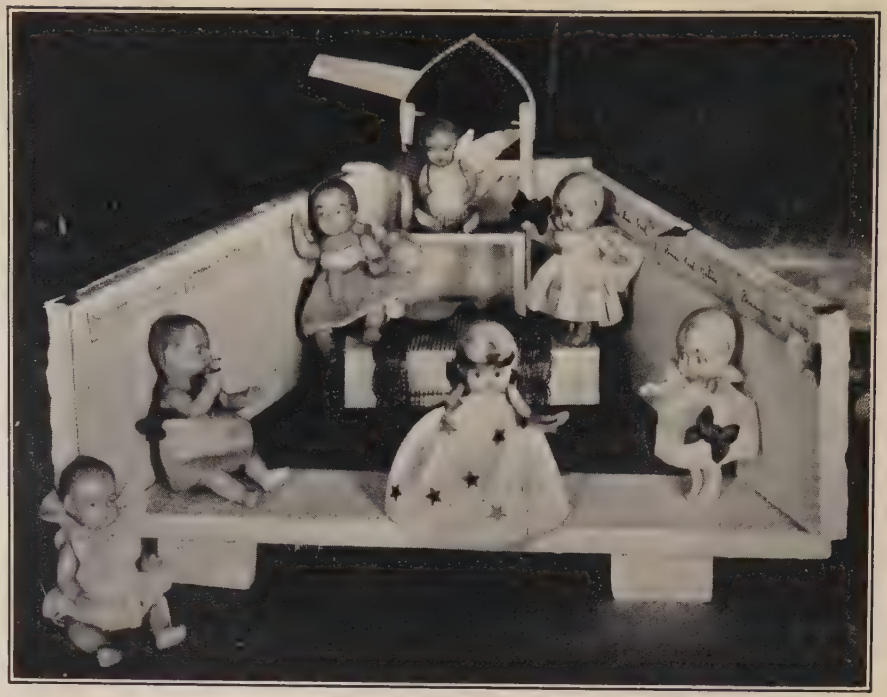
*See "Health Training in Schools."



First Grade Puppet Show, "Queen Happy Heart and Her Keep Well Fairies"

Procedure

September: Weigh and measure each child. Introduce the idea of the new game, "The Health Game," by questions as outlined in "The Launching of the Health Work." Present the health rules through health stories, from which the list of rules may be evolved by the children. (U. S. Bureau of Education "Rules of the Game" used as standard.)

October: By the second month the children will be familiar with the rules of the game and may make individual health calendars for checking personal health habits at morning inspection. A gold star may be awarded for every perfect day. Post calendars in reach of the children and let each child put on his own stars. The next step is to turn the "Health Game" into playing the "Good Health Family." The duties of the various members of the "Good Health Family" may be studied. These include personal care, helping mother, caring for the pets, etc. The food of each member of the "Good Health Family" may also be studied. "The Nutrition First Reader," "The A. B. C.'s of Health" may be used in this food study. Organize a club and choose club name from the following list of suggested titles: Mother's Helpers, Little Helpers, Brownie Clean-Ups.

Have the club check up certain home and school duties with gold stars on class-room honor roll. Home experiences and duties may be dramatized, such as getting ready for school, cleaning up home and yard, helping mother and father, caring for baby, caring for pets (washing if pet is a dog), feeding, sheltering, playing kindly with pets.

November: Preparation for the Health Circus in which the children develop their own part of playing the "Good Health Family" at the circus. This will take up the greater part of November. Their preparation for the circus consists of a dramatization review of bathing, dressing, preparing the lunch, etc. Another pantomime is how the Good Health Fairy would avoid colds. (1) Search for clouds, collecting parasols, raincoats and rubbers, etc. (2) How to protect others from our colds—handkerchief drill, showing how to cover cough and sneezes. (3) An original Fresh Air Song led by Fresh Air Fairy and Cho-Cho.

December: The Christmas spirit of service may be fostered

through Red Cross activities such as preparing Christmas boxes for needy children. Stories about Christmas Seals introducing the idea of anti-tuberculosis service. Prevention of colds reviewed by having children retell story of Fresh Air Fairy. "Billy's Pal" used to introduce idea of ways of catching diseases and habits to keep them off.

January: Begin the New Year with the making of health mottoes and the learning of health songs. Stories on orderliness and carefulness may be used to further develop these qualities.

February: For February use "The Metropolitan Mother Goose" and Herben's "Jack O' Health and Peg O' Joy." From these interest may be easily aroused for the making of some original health rhymes adapted from Mother Goose. Examples are given at the end of the chapter.*

March: March may be spent in the preparation for a big interclass celebration, a Health Pageant, to be given in April and in which the first grade children may act in pantomime the health rhymes made in February. A Band of Mercy may be organized and buttons may be given to each child who passes certain tests on description of habits and care of pets, domestic animals, and birds. A pet day celebration may be given during this time, when pets are brought to school and exhibited by all the primary and grammar grades. The first grade may also take part in the Civic Clean-Up Campaign.

April and May: The last two months of the school term may be spent in construction problems to be used for the Health Week Exhibit and again at Commencement Exihibit. These problems include health booklets, health posters, and a sand table problem of "The Good Health Family, Home and Pets." In these problems cut paper work, picture cut outs, paper folding and clay modeling may be used most effectively. Make the leaves of Good Health Booklets of primary pencil pad paper (lined), with bogus paper covers tied with raffia. In these the rules of the "Health Game" may be copied by the children with pencil and illustrated with magazine cutouts. At the exhibits other articles constructed in health work may be shown also, as the hat-box houses made for the "Good Health Family," the individual health calendars, individual food and "clean-up" posters, also class posters, (baskets filled with cut paper

* The author regrets with others the adaptation of the original Mother Goose to health work but the dearth of material started it and the results here justified the means so far.

fruit and vegetables that the Good Health Family should eat). The last give impetus to good food habits. A cut paper frieze of little milk bottle men supplies interesting activity during a campaign to increase the use of milk.

HEALTH CLUB ORGANIZATION OF THE FIRST GRADE

First, Mother's Helpers

1. To learn to bathe my own neck, ears, face and hands.
2. To brush teeth at least twice a day.
3. To brush and comb my hair.
4. To fasten my own shoes and clothes.
5. To remember to have hot baths, more than once a week.
6. To eat one vegetable or more every day, to drink milk but no tea or coffee.
7. To sleep eleven hours with windows open and to play outdoors every day.

Second, Little Helpers

1. To pull bed cover back over foot of bed so bed can air.
2. To put away toys at night.
3. To put out fresh clothing for school ready for next morning.
4. To put all pencils, books, caps, coats, etc., in one place ready for school before going to sleep.
5. To sleep with windows open.

Third, The Helpful Clean-ups

1. Feed pet.
2. Water pet.
3. Clean pet's house. (cage).
4. Wash pet if needed.
5. Clean and straighten play-house.
6. Help keep paper off floor, and to keep things generally straight at home and at school.
7. Wipe feet on mat before going in home or school.

Fourth, The Mercy Band Helpers

1. To be kind to all living creatures.
2. To be cheerful in helping.
3. To be prompt in helping.

Note: A Humane* Button is the crowning award for the graduation at the end of the fourth order.

TEXT

A regular text is not required in the first grade but the supplementary readers listed below will be found to be useful. Theory or thought content is acquired by pupils from health stories read or told by teacher, (oral reproduction by children); health pantomimes and dramatization; health mottoes; health songs; seat work (note paper cut-out suggestions from supplementary grade reading, also separate letters to build up words as they see them on charts in front of room); and flash word cards for action sentence building.

Supplementary Readers

Bolenius, Emma M. "Primer," Houghton Mifflin Co., Boston. Price: 60c.

Broadhurst, Jean. "All Through the Day the Mother Goose Way," J. B. Lippincott Co., Philadelphia. Price: 75c.

Herben, Beatrice S. "Jack O' Health and Peg O' Joy," Charles Scribners Sons, New York. Price: 45c.

Iowa Tuberculosis Association. "Silent Reading for Health," Des Moines, Iowa. Price: 7c.

Peterson, Mrs. Frederick. "Child Health Alphabet," American Child Health Association, New York. Price: 20c.

Van Meter, Anna R. "Nutrition First Reader," Merrill-Palmer School, Detroit. Price: 20c.

Watson, Elizabeth C. "The Metropolitan Mother Goose," Metropolitan Life Insurance Co., New York. Price: 10c.

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*American Humane Education Society, 180 Longwood Avenue, Boston 17 Mass.

Poetry References

Dansdill, Theresa. "Health Training in Schools." National Tuberculosis Association. Price: $1.00.

Gibbs, Winifred Stuart. "The Children's Book of Food Verses," M. Barrows and Company, Boston. Price: $1.25.

Stevenson, Robert Louis. "A Child's Garden of Verse," Charles Scribner's Sons, New York. School Edition. Price: 64c.

Taylor and O'Keefe, "Original Poems and Others." Fred A. Stokes and Company, New York. Price: $2.50.

Welsh, Charles. "Book of Nursery Rhymes," D. C. Heath and Co., Boston. Price: 76c.

"Mother Goose Pictures my Children Love to Cut Out," "Animals my Children Love to Cut Out," "My Children's Robert Louis Stevenson Paint Book." Lloyd Adams Noble, Publisher, 31 W. 15th St., New York, Price 50c. each.

Minor Projects

1. Hat box homes made and furnished for the Good Health Families.
2. Making card board dolls for members of Good Health Family.
3. Clay modeling of fruits, vegetables and pets.
4. Sand table home of pets of Good Health Family.
5. Printing names for marking doors and streets.
6. Individual health calendars made by children for morning inspection.
7. Individual drinking cups (paper folding problem).
8. Paper napkins folded and cut out for school lunch.
9. Wrapping a sandwich.
10. Washing fruit.
11. Individual health charts with picture cut outs of their own Good Health Family.

Inter-Class Problems

1. The Good Health Family at the Health Circus.
2. National Fire Prevention Day.
3. Pet Day.

4. Health Pageant.
5. Clean-up Week.
6. Good Health Week.

Health Rhymes in Phonic Work by First Grade Children

To breakfast, to breakfast,
To get a glass of milk,
Back again, back again,
Feeling fine as silk.

This is the way we brush our hair,
Brush our hair, brush our hair,
This is the way we brush our hair,
On every single morning.

This is the way we wash our face,
Wash our face, wash our face,
This is the way we wash our face,
Every night and morning.

This is the way we brush our teeth,
Brush our teeth, brush our teeth,
This is the way we brush our teeth,
Five times every day.

This is the way we take our bath,
Take our bath, take our bath,
This is the way we take our bath,
Every single day.

Little Bo-Peep gets plenty of sleep,
And all her windows are open,
She has had a warm bath,
She is out of the draft,
And she will sleep soundly till morning.

Bring the rope and bring the ball,
Come with clean faces all.
Let us make a merry ring,

Talk and laugh and dance and sing.
Quickly, quickly come away,
For it is a pleasant day.

Little Tommy Tucker,
Singing for his supper,
What shall he eat?
Milk, bread and butter.

Mary, Mary, My pretty Mary,
What makes your red cheeks glow?
With rest each day and outdoor play,
And early to bed I go.

Some More Mother Goose Health Rhymes*

Nourishing Food

Tommy, Tommy, quite so sturdy,
What makes your muscles grow?
Fruits so sweet, bread of whole wheat,
And glasses of milk all in a row.

Nourishing Food, Rest, Sleep

There was an old woman who
lived in a shoe,
She had many children, but
knew what to do;
She gave them some milk and
butter and bread,
Opened wide the windows and
put them to bed.

Nourishing Food

Young Jane Cole was a healthy young soul,
And a healthy young soul was she.
She called for her fruit
And she called for her bread
And she called for her vitamines three.

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*Note: Made by Miss Blanche Tait for problem in School Hygiene Course—1923.

Hot Lunches

To recess, to recess, to buy a hot lunch,
Back again, back again, a well nourished bunch.

Flies

"Who killed the dirty fly?"
"I," said little Johnny Mott,
"With one little swat!"

Mosquito

"Who killed the mosquito?"
"I," said the man,
"With my little oil can."

Some First Grade Lesson Plans*

Cleanliness

Teacher's Aim

To teach the value of cleanliness and to correlate the health lesson with a language lesson.

Pupil's Aim

To learn the rhyme and be like Jack Horner.

Preparation	Preparation
Discuss picture of Jack Horner. Value of Cleanliness.	Show picture of Jack Horner to class. What do you think Jack did the first thing this morning? What do you think he did to his hair? What do you think he did to his face? What do you think he would do to his nails before he put them in a nice Christmas pie? Listen carefully while I read Jack Horner.

*Made by Senior Normal students for their health work in the grades.

Presentation

Little Jack Horner sat in a corner,
Neat as a boy can be,
See how smooth is his hair
And his nails cleaned with care
Oh, what a nice boy is he!

Presentation

Read rhyme. Who can tell me what Jack was doing? Who can tell me about his nails? Who can tell me about his hair? Read rhyme again. Who would like to tell me all about Jack? Have several children recite rhyme.

Conclusion

Encourage the children to clean finger nails, wash face, comb hair, like Jack every morning.

Conclusion

How many would like to be like Jack? When you come to school tomorrow, I want to see who is going to look most like Jack. What things do we have to do to be like Jack? How many will promise to do all these things?

Finger nail drill may be taught next day.

Teeth

Teacher's Aim

To teach the children how to brush the teeth.

Pupil's Aim

To learn how to brush the teeth properly.

Preparation

Ask children if they have ever had a tooth ache, or been to the dentist.

Preparation

I wonder if any of you have ever had a toothache. Hands. Have you ever been to the dentist? How many of you have had a tooth filled? Did it hurt? Don't you think it would be much nicer to keep your teeth clean, pretty and white, so that you would not have this pain? "A clean tooth seldom decays."

Presentation

1. Show toothbrush.
2. Use.
3. Times to use.
4. Regularity.
5. Demonstration by teacher.
6. Toothbrush drill by the entire class.

Conclusion

Will ask each day about teeth. We will also have drills at school.

Presentation

Who can tell me what this is? What do you do with it? Have you one at home? How often do you use your tooth brush?

You may come and brush your teeth before the class. Watch how she does it. Now I am going to show you the correct way to use it. Everybody join in and brush your teeth with us. Since each one of you has a new brush I am sure you are going to brush your teeth at least twice every day.

Conclusion

Tomorrow and every day I shall ask who brushed their teeth. Whose hand shall go up? You will get a silver star on your record every day you are perfect and a gold star every week, etc.

An Inter-class Problem for the Primary Grades

The Health Circus project described below was worked out by the first five grades of a practice school connected with a normal college. It was handled as an inter-class problem make up of five distinct, but closely related major problems.

First Grade Project-problem.—"To play the Good Health Family at the Health Circus."

Second Grade Project-problem.—"To play Good Americans at the Health Circus."

Third Grade Project-problem.—"To play the Safety Scouts at the Health Circus."

Fourth Grade Project-problem.—"To demonstrate the part of healthful shelter and clothing at the Health Circus."

Fifth Grade Project-problem.—"To demonstrate the need of healthful food at the Health Circus."

The Aim

Purposeful activity to stimulate the formation of specific health habits.

The Situation

All of the children had been weighed, measured, and given a thorough medical examination the first month of the school year. Results were recorded and filed for ready reference in the principal's office. Follow-up work in the form of cards and visits to the parents by the school nurse and grade teachers, had resulted in the correction of many defects, while the course in school hygiene carefully applied helped to correct seating, lighting, and ventilation. Relief drills, corrective gymnastics (wherever needed) supervised plays and games on the playground, nutrition classes, including hot school lunch followed by rest period, gave this special group of children a chance to develop normally and happily, and gave a sane basis for direct health instruction and for the playing of the "Health Game." The children were familiar with morning inspection, dramatization of health ideas, many health stories, mottoes, creeds, and also the Health Crusade work and Junior Red Cross activities. With this background of training, and a recent visit by all of the children to their "County Fair," a few blocks away which had a Health Center, and a visit by most of them to the "Big Circus" which had recently been in town, the teachers found it easy to interest them in a circus of their own.

While this project was worked out with a group of children who were more or less familiar with health ideas and health ideals, the writer believes that any teacher who is familiar with modern methods, may take any group of children and successfully launch this or other health problems from some interesting experience of the child,—circus, fair, story, or play.

Launching the Problem

In launching the Health Circus, the first problem was the selection of an approach for each class that would appeal to the

interest of the children of that class so that they would wish to take part in the Health Circus; the second problem was the selection of a particular field of health work that would encourage purposeful activity along the line of both personal and social hygiene; the third problem was to select an approach that would be sufficiently different from the other grades' problems to encourage class spirit; that would develop the feeling of inter-class service; that would make a perfect unit for the big Health Circus. Since this necessitated a different approach for each class, the launching of the problem was treated as five minor problems working toward the one major problem,—the Health Circus.

The spirit of inter-class service was kept alive throughout the entire period of time by exchange of ideas and work. The children and teachers spent a month in busy preparation for the "Circus" and the result was a wish "to do more health work together." This spirit was encouraged by inter-class celebration of Fire Prevention Day, Pet Day, Accident Prevention Week, and also in an occasional assembly offering, in form of a health program from the different grades. This led to another big inter-class problem, a beautiful health pageant given in the spring to which each grade contributed a series of scenes in costume.

First Grade Problem Leading to the Health Circus

"The Good Health Family at the Health Circus"

Teacher's Aim

To train pupils in personal habits of cleanliness, orderliness, kindness.

Children's Aim

To play the Good Health Family at home, and at school, while getting ready for the Circus.

Situation

The children were familiar with the "Health Game" by weighing and measuring, health stories, songs, morning inspection, etc.

Launching the Problem

Step One: A general discussion of last year's Health Exhibit brought about by teacher's questions. Discussion of recent county

fair with its Health Center and of the "Big Circus," which had visited the town the week before. Idea of getting ready for a Health Circus of their own presented by the teacher. Picture of animals having their teeth and nails cared for. Review of these and other health habits that are good for boys and girls as well as circus animals.

Step Two: Teacher before class holding roll in which are four decorative posters, orange and white elfin figures on black background, 21 × 27, illustrating milk, oatmeal, eggs and fruit.*

To children: "I wonder who could tell me what is in this roll? No, not a calendar. Yes, John, pictures, four pictures. Guess what the pictures are about? Suppose I tell you. They are pictures of some of the friends of the Good Health Family. Now, if you like these friends of the Good Health Family, maybe we can play the 'Good Health Family' ourselves."

Step Three: Children enjoy pictures and wish to keep them, so they are posted in the room.

Step Four: Children were told about Health Circus and asked if they didn't wish to have a part in it. They became interested and began at once to live their parts and prepare their contribution to the circus. Some took the part of different members of the Good Health Family with placard names, costumes and behavior suited to their characterization as they marched in and took their place on the grand stand. Others had part in the performance. (Each grade furnished two animals, two clowns and one act in the ring, also one side show, where grade health work was exhibited and demonstrated. Every child had a part.)

Correlation

Language lesson where the family was organized.

Language

Members of the Good Health Family, their friends, their enemies.

Duties of each member of the Good Health Family.

Pets of the Good Health Family—cat, dog, rabbits, canary, pony, cow.

Care of the pets of the Good Health Family.

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* Price 25c each, from the American Child Health Association.

Club Work

"The Helpers." (Duties of members, how to become members. Each child had to qualify.)

Manual Training

Made and furnished home for the Good Health Family.

Art Work

Picture cut-outs, letter cut-outs for building words. Posters of the Good Health Family at play, work, etc., "The Good Health Family's Picture-book." Folding paper napkin for luncheon, making individual drinking cup and learning how to wrap sandwiches and wash fruit for the circus lunch.

STORY REFERENCES FOR TEACHERS

Aesop. "Classic Fables," Ginn and Company, Boston.

Bailey, Carolyn Sherwood. "Stories for Sunday Telling," Pilgrim Press, Boston.

Bass, Florence. "Animal Life, Plant Life in Mythland," D. C. Heath and Company, Boston.

Bigham, Madge. "Merry Animal Tales," "Fanciful Flower Tales," "Mother Goose Village," Rand McNally & Co., New York.

Dansdill, Theresa. "Health Training in Schools," National Tuberculosis Association, New York.

Dental Lectures for Teachers, Clinic Folder for Teachers, Jungle Powwow, Fables for Little Folks, Little Foxes, Care for your Choo-choo Engine, all free from Colgate & Co., New York.

Ferguson, Harrison Wade. "Child's Book of the Teeth," World Book Co., Yonkers-on-Hudson, New York.

Gates, G. S. "Nannette and Baby Monkey," Houghton Mifflin Co., Boston.

Johonnot, J. "Book of Cats and Dogs," American Book Co., New York.

Lindsay, Maude. "Mother Stories" and "More Mother Stories," Milton Bradley Co., Springfield, Mass.

Whitehead, E. K. "Dumb Animals—How to Treat Them," Flanagan Co., Chicago.

Wiltse, Sara E. "Kindergarten Stories and Morning Talks," Ginn & Co., Boston.

CHAPTER XXI

SECOND GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: CIVICS AND HEALTH

Age 7–8 years.

Time Division: See First Grade, page 270.

Aims and Purposes

General Aim

To develop personal health habits and civic ideals through close correlation of civics and health.

Teacher's Aim

To train children in habits of cleanliness, orderliness, self-control, kindness, justice, loyalty, promptness, thrift, self-reliance and coöperation, so that they may be good Americans.

Children's Aim

To learn how to be a good American.

Theory or Thought Content

I. Introduction

Good American stories.

II. A Good American Is

A. Healthy.

1. Clean and neat in person.
   (See outline for First Grade, page 271.)
2. Orderly.
   a. Hangs up clothing, brushes clothes and shoes.
   b. Puts away his toys.
   c. Puts school things on chair ready for school before going to bed.
   d. Keeps desk in order.
   e. Takes care of his books.

3. Eats right kind of food at regular hours.
4. Drinks at least three glasses of milk daily (no tea or coffee).
5. Sleeps long hours with window open (in bed 7–8 o'clock, 10 hours' sleep).
6. Plays outdoors every day.
7. Helps ventilate the school room.
8. Helps keep school clean and neat.
9. Covers mouth with clean handkerchief when coughs or sneezes
10. Stands, walks and sits erect.

B. Thoughtful of others.
(Courteous and unselfish.)
1. At home.
2. At school
3. On the street.
4. Down town.
5. Over the phone (how to phone).
6. Quiet in school and church.

C. Careful (safety first).
1. To prevent personal accidents.
2. To protect others from accident.
3. To avoid contagious diseases himself, and keep little brother or sister away from them.

D. Kind (believes in justice to all).
1. To little children (protects rather than teases).
2. To old people.
3. To dumb animals (danger of teasing).

E. Loyal (coöperative).

F. Prompt.

G. Honest.

H. Thrifty.

I. Self-reliant (active in school, at home and on the playground).

J. Cheerful.

III. **A Good American Knows**

A. "Mine," "thine," "ours."
B. His local government, mayor and council, etc.
C. His city or county officers, their duties as mayor, judge, police, health officer, fireman.
D. His city hall or court house, his post office, his fire department, his jail, his bank.
E. The best stores, dairy, market, bakery, etc.
F. His governor, his president, state, national capitol (has pictures of all).

IV. **A Good American Helps His Country by**

A. Being a law abiding citizen.
   1. Does not throw stones at windows.
   2. Does not steal.
B. Helping to keep his city clean and beautiful.
C. Preventing accidents.
D. Being kind to all living creatures, children, old people, dumb animals.

Good American Stories

My Flag.
My Mother's Flag.
The Builder of a Nation.
The American Red Cross.

(These and other stories taken from "I Am an American" by Sarah Cone Bryant—Houghton Mifflin Co., Boston, should be simplified to meet second grade interest.)

How Our Big Brothers Fought for America in France. (An outline developed by teacher.)

Stories of Washington, Lincoln and Lee.

Cleanliness, Neatness

The Three Giant Cares (hair, teeth and hands).
"What the Chew-Chew Engine Taught." *
"Dental Dangers." *
"Speckled Apples." *
"Silks and Smiles." *

* "The Chew-Chew Engine." Free booklet from Colgate Co., New York City.

"The Little Toy Soldier." *

Posture Story

"Old Scowly Spine Pack." *

Christmas Stories

Review "How The Hollyberry Almost Lost Its Red Cheeks." *
"Danny's Christmas Seal," p. 227.

Food

"The Way to Health Land" (Pictorial Review, February, 1923).

(See "Healthland Flyer," folder of American Child Health Association.)

Accident Prevention

(Orderliness, Carefulness)

Fairy Careful and Fairy Careless. (Review from first grade.)
"The Three Giants." (See page 226.)
"Carefulness" from "The Land of Health." †
Story Hour Reader, Book II, Colvin and Christie.

Text

A regular text is not used in the second grade, however, the following supplementary readers will be found helpful.

Supplementary Health Readers

Groom, William S. "Health First Reader," The Strobridge Lithographing Co., Cincinnnati. Price $0.20.

Public and personal health rhymes. Illustrated in colors. Most helpful for course of study outlined. Suited for second grade second semester's work.

Peterson, Mrs. Frederick. "Every Child's Book," price 15c. "Cho-Cho and the Health Fairy," price 15c. "Rhymes of Cho-

* "Health Training in Schools," National Tuberculosis Association.
† Hallock, Grace T. and Winslow, C.-E. A. "The Land of Health." Charles E. Merrill Co., New York.

Cho's Grandma," price 20c. The American Child Health Association, 370 Seventh Avenue, New York.

Procedure

September, October: After the children have been weighed, measured and given a thorough medical examination, re-introduce them to the health field by a study of the rules of the health game, preceded by a story of Washington, the father of our country, taken from Sara Cone Bryan's book, "I Am an American." Emphasize the following facts: (1) That while Washington was the father of his country, he could not have made America great by himself; (2) that good citizens were not only needed then but are needed now; (3) that children may be good citizens also; (4) that being healthy is one of the first ways of becoming a good citizen.

Later the appreciation of "My Flag" may be developed by the story of "My Flag" and a salute to the flag made a part of the morning exercises. Patriotic songs, poems and stories should be used to build up the feeling of pride and respect for "America, My Home." Stress the idea that good Americans should make every effort to be healthy. From this new idea of citizenship have the children gradually build up the rules of personal health and public health that should be followed by the good American citizen of the second grade. These rules may be made into an attractive poster by the teacher and placed on the wall beside the Second Grade Good American Honor Roll, which is used for the weekly checkings from the daily calendar record of each child's health habits.

Individual calendars may be made by the children as in the first grade, and a daily award of a gold star given for perfect morning inspection. The weekly award given on the American Honor Roll for a perfect week may be a flag seal.*

November, December: Organize a Good American Club. Weekly meetings may be held and reports made on the progress of the second grade citizens. The club pledge may be a card

Note: From personal experience the writer is convinced that the second grade child is quite equal to an understanding of citizenship privileges and obligations.

*These seals may be obtained from the Dennison Manufacturing Co., 5th Ave. & 26th St., New York City.

decorated with a Dennison cherry seal on which each child may write: "I will try to be a good American and serve my country" and sign his name.

Another interesting problem that will help develop these ideals is the making and naming of the Good American Peace Army. The members of the army may be made of pasteboard covered with brown wrapping paper with white drawing paper faces, and names and placards printed for them by the children. When the army is completed have the children develop a sand table army camp with tents of brown paper. The children may work out in puppet show the simple maneuvers of the army. From this there may evolve the idea of dividing the school room into company streets, with the child making the highest record at morning inspection the week before as "top sergeant" in charge of his company street. His duty will be to see that each child in his row keeps his own desk in order and the floor around his desk free from paper and trash. A little time given to a project of this kind every day, will materially improve the order of the room.

January: Class discussions may lead to the making of mottoes, for use as spelling and writing work. America and other national songs may be learned, as well as the American Creed. Opportunity should be given to study other qualifications of a good American. (See Theory or Thought Content for Outline, page 291.) These ideas may be introduced with a story, a puppet show or little play.

February: What a good American should know may be developed by excursions in small groups to post office, city hall, court house, market, bakery, grocery store and fire department, followed by oral reports.

March, April: How a good American helps his country may be developed by object lessons, stories and by the weekly reports of specified children in their health club. The second grade may take part in the civic clean-up campaign, and time may be given for the development of the second grade parts of an inter-class health pageant in April.

May: The making of health problems for Health Week and Commencement Exhibit are timely for this month.

Minor Problems

An individual health calendar may be made by each child and placed on the wall within reach so that the child may put on his own gold stars.

A booklet called "A Good American Health Book," may be made by each child on primary pencil tablet paper. Each page may contain a picture cut-out representing some health idea and a motto made by the class and copied from the board by each child. When the leaves are complete, a back may be made of inexpensive mount paper on which is pasted a silhouette cut-out of black paper. The title of the book, "Good American Health Book" may be made of cut letters. A binding of raffia may be run through the holes cut in one margin of the sheets and backs.

Learning to write the Good American Creed is another excellent writing correlation.

Ideals of civic attractiveness may be developed by small posters of cut paper for back fences with vines and flowers to be used as a frieze around the blackboards.

Free hand cutting of good American food, fruits and vegetables, may be done. These may be later made into little posters as bowls of fruit and baskets of vegetables.

A cut paper chart of a clock showing the hour for good American health habits may be made by each child.

Vegetables and fruits necessary to the health of good Americans may be modeled in clay.

Some Topics for Health Lessons

The good American health rules.

The care of the good American's teeth.

How to make a health calendar.

What good Americans should eat.

The need of fresh air and exercise by all good Americans.

At least four glasses of water a day for all good Americans.

When a good American sleeps, how much he sleeps, and how he sleeps. (Contrast this with the children of other lands.)

Why good Americans should be orderly.

How to take care of books. (A Tale of Two Books.)

Good manners for good Americans.

Rules of Politeness (A Review Lesson)

1. An American gentleman opens a door for a lady.
2. A good American rises when a lady enters the room.
3. A good American picks up anything a lady drops.
4. An American gentleman always walks on the outside when walking with a lady.
5. A good American says, "Thank you," and "If you please."
6. A good American never walks in front of anyone without asking to be excused.
7. A good American never coughs or sneezes in the presence of other people without using handkerchief or asking pardon.
8. A good American is considerate of older people.
9. An American gentleman always removes his hat in the house and in an elevator and tips his hat to a lady when he meets her on the street.

Conclusion

1. A good American is polite.
2. I will be polite to everybody.

(Correlate with writing.)

Girls may be taught to curtsy and the boys to bow. Constant practice of these and other courtesies should be expected.

Class readings from Herben's "Jack O' Health" and "Peg O' Joy." (See first grade references.)

A series of lessons may be given on what good Americans should know about their town, county, city, state, country.

A SECOND GRADE INTER-CLASS PROBLEM

"Uncle Sam's Good American Peace Army"

(A pantomime in two scenes worked out by the children for their part in the inter-class pageant in April.)

Cast

Old Man Dirt—(Blacked up and dressed in tatters).

His Germ Children—An untidy child with pencil in mouth. A ragged, dirty child with finger in mouth. Another dirty child eating candy, with dirty hands.

MEMBERS OF THE "SECOND GRADE GOOD AMERICAN PEACE ARMY"
Cardboard Dolls Made by Children and Lettered by Teacher for Sand Table Project

His Thoughtless Children—A careless child tearing paper on floor. A careless child slapping erasers together.

The Coffee Pot.

The Tea Pot.

A Slice of Pie.

A Lollipop.

Officers of Uncle Sam's Peace Army

General Fresh Air.

Colonel Cleanliness.

Captain Sleep.

Lieutenant Drink Milk.

Sergeant Play.

Corporal Be Careful.

Bugler "Watch Your Step."

The Standard Bearer.

The Army Behind

1. The Soap Men (3).
2. The Tooth Brush Brigade (3).
3. The Waste Basket Girls (3).
4. The Broom Men (3).
5. Scrubbing Brush Men (3).
6. The Milk Maids (3).

Scene I

School Room

Old Man Dirt and his followers come and destroy the cleanliness and order of room. Coffee, Tea, Lollipop and Pie come in and dance around the lunch cabinet. A bugle call. All hide.

Scene II

Same Room

Officers of Good American Peace Army come in and take place for their headquarters. When they see state of affairs, the Bugler is

commanded to call for an advance of the Army Behind, The Clean-up Troops. These arrive quickly and clear place of its debris; while doing this they find Old Man Dirt's crew and drive them out. The flag bearer and other members of the army then form in order of their rank and salute as the curtain goes down.

ANOTHER PROJECT-PROBLEM FOR THE SECOND GRADE

Series of health posters as an alphabeted purpose. To aid in the formation of health habits.

After studying "The Health Alphabet," ask the children if they would like to make one of their own. Discuss ways of making one and then make a poster for each letter in the alphabet.

Have the children together write a rhyme about something needed beginning with A. This may be correlated with the study of certain phonetic families and also furnish material for a spelling lesson. In penmanship after the movement drills, have the rhyme copied and choose the best copy for the poster. This will serve to improve carefulness. After the rhyme is written, have the children bring illustrations cut from magazines at home or at school and allow the child bringing the most appropriate to arrange them on the (class) poster. Then let all the children cut letters freehand and again let the child doing the best work paste the letter on the poster.

This procedure may be used with all the letters, care being taken that many children, if not all, are allowed to contribute to the posters.

In addition to the aim and the work correlated, the posters themselves will prove a great help. They will help the children to find words readily in their spelling dictionaries and will encourage the habit of bringing to school material bearing on their work.

The children will enjoy entertaining another class with an illustrated health acrostic, their own work.

GOOD AMERICAN CLUB

The second grade health club revolves around the idea of being a good American. The program is divided into four units: namely, personal health habits of a good American; what a good American should know; how a good American should serve; and an original plan for their own work in safety education, in the garden, or for

the health exhibit. Each stage in the development of Uncle Sam's Good American Peace Army carries with it certain duties, class name and awards to be worked out by the children.

GOOD POSTURE

Teacher's Aim

To teach the value of good posture in correlation with a reading lesson.

Pupil's Aim

To learn to read rhyme and do as it tells us to do.

Preparation

Simple discussion on values of good posture:
(1) Looks better.
(2) Feels better.
(3) Helps us to grow.
Illustrated by posters on correct and incorrect posture:
(1) Poster of correct sitting posture with first and second lines of rhyme printed on it.
(2) Poster of correct standing posture with second and third lines.
(3) Poster with poor posture sitting and standing as in lines five and six.
(4) Poster of the goops.
(5) Poster with rhyme printed as a whole.

Preparation

Children do you remember about the goops? All right, Sarah, tell us about them. No, John, we do not wish to be goops. Wouldn't you like to see some pictures and read a rhyme that will tell us how to keep from becoming goops? Now sit erect, well back in your chairs. Heads up, shoulders flat.

Presentation

"When I sit I sit up straight
Not hunched up in a heap
And when I stand I stand up
tall
My shoulders flat I keep

Presentation

Have children read rhyme silently. The first lines tell us how to sit. Who can do as the first lines say to do? Mary may read the first two

If I should let my body droop
And stick my head out—so
It seems to me I'd be a goop
Are *you* a goop?—Oh no!"*

lines and as Mary reads, everybody do as Mary says to do. The next two lines tell us how to stand. Who can do as these lines say to do? Susie may read these two lines, and as she reads everybody must do as she says to do. Now Henry may read the next two lines. Would you like to look that way? What do the last lines say you should do, Jane? John may stand and read the entire rhyme. John may also show us how to stand as he reads. Have several children stand and read the rhyme from the posters and blackboard, always standing and sitting correctly.

Conclusion

Have children promise to remember the poem and try to do as it tells them to do.

Conclusion

Let us all say this rhyme together. As you march out to recess I want to see how many are going to remember this rhyme and do just as it says do. I want to see who will remember it when they come in from recess. I want to see who will stand and sit just as the rhyme says every day.

Teacher's Aim

To continue to teach the value of good posture in connection with a singing lesson.

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*This lesson should be preceded by an introduction to the Goop Book by Gelett Burgess, and may be concluded with dramatization of rhyme, followed by posture posters made by children.

Child's Aim

To learn to sing the song and to salute flag.

Preparation

Review yesterday's lesson by reciting rhyme learned. Discuss the value of good posture.

Preparation

Who can recite the rhyme we learned yesterday? Show me how the rhyme says to sit. Show me how the rhyme says to stand. How many of you would like to be like the good American boys and girls we saw on posters yesterday? Remember, if you are going to be a good American you will have to stand straight and sit erect. This morning we are going to learn a song about our flag.

Presentation

"I pledge allegiance to my flag
And to my country too
There truly isn't anything
That I should rather do
Than grow up sturdy, tall and strong
And serve them both my whole life long."*

Presentation

Read entire song. How should a good American stand when he salutes his flag? Read song again to the children. Have children repeat words several times. Then teach the melody. As we sing this song, we are going to stand tall with our heads up, our shoulders flat and salute the flag. The person that stands in best position may be the captain and carry the flag, as we march around room several times. Choose different captains.

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*First verse of "A Health Song for Flag Day," selected from "The Children's Book of Food Verses" by Winifred Stuart Gibbs. Music by Walter Howe Jones. Published by M. Barrows and Company, Huntington Chambers, Boston. Price $1.25.

Conclusion

Encourage children to see beauty in their flag and to love and respect it.

Conclusion

How many of you like to salute your flag and march behind it? How many of you would feel hurt if anything soiled it or anyone was disrespectful to your flag. Every time you see your flag with its bright red and pure white stripes, its field of blue with its stars of white, will you try to remember to be true Americans with high heads and flat backs?

A SECOND GRADE ART CORRELATION

General Aim

To teach through the making of a health calendar the selection of pictures to illustrate some health habit and incidentally to teach the use of the ruler.

Teacher's Aim

To teach the selection of good health pictures. To teach the children the use of the ruler.

Child's Aim

To select good health pictures. To make a health calendar. To learn the use of a ruler.

Preparation

Ask questions about the good American Club.
Name of Club?
The Officers?
Rules of the Club?

Preparation

Who can tell me the name of the club organized in the second grade this morning? Will you tell us the officers in this club, Bill? Tell us what the name "Good American" stands for, Mary. Are we all going to be members? Could you name some of the rules

for us, Sue? If we keep the rules for a day, what will we get, Jean? Yes, a star. Where are we to place this star? Yes on our calendar. How would you like to make your own calendar? That is what we are going to do to-day.—

Materials: Card for calendar, green paper for mounts and paste.

Presentation	**Position**
Give directions for making a health calendar.	Remember how the Good American sits. Very quietly you may each get your rulers and pencils and quickly get back to your desks and in position.
Ruling of squares or blocks.	We are now ready to start with our blocks. On each side of the square at the top and bottom there are dots. Start at the top, connect these dots with lines drawn by using the ruler in the same manner right and left.
Placing name of month (October).	Everyone has a calendar started on his desk. We will begin work at the top. Make the word October darker
Placing of days of week.	What is the first day of the week? Can you tell me what three letters stand for Sunday, Mary? Monday, etc., for each day of the week, making them on the board as they progress.

Directions for pasting squares.	Spread some paste on all four corners of your card. Be careful not to get too much. Place this at the bottom of the green paper, leaving a margin of the green on the bottom, top, and two sides.
Directions for making the numbers representing days of the month. (Teacher illustrating on the board.)	Who can tell me what day was the first of October? Yes, Sue is right. Wednesday was the first day of October. Let's start there with our numbers. Start on the second line of squares with the 5th, etc. to end of month.
Selection and discussion of pictures.	What must we do next, Joe? Select and paste our picture above the calendar card. I'm coming around to see the pictures you have selected. Why did you select this picture? Why is it so? Why wouldn't this picture of a piece of candy be good to use, Jean? Yes, it is sweet. What will the good American eat instead of this and other such sweets? Vegetables and what else? Yes, fruits. When can you eat candy? Yes, Mary, after dinner, two pieces in place of dessert.
Pasting of picture.	Put just a small amount of paste on the picture and paste as we have arranged.

Inspection of work; selection and exhibition.	Now aren't these nice calendars? We will pin them all on the wall. Tomorrow I want to see a Gold Star on every calendar.
Further reference to good health habits by putting away materials, clearing up desks, room, etc., preparatory to going home.	Like members of the Good American Society, let's all put away our pencils and rulers, get our books ready for home. Which table is to be in order first to-day?

STORY REFERENCES FOR TEACHERS

Bryan, Sara C. "A Good American," Houghton Mifflin Company, Chapters XI, XIII, XIV.

Eggleston, Edward. "Stories of Great Americans for Little Americans." American Book Co., New York.

Gueber, R. A. "Yourself and Your House Wonderful," Uplift Publishing Co., Philadelphia.

Taylor and O'Keefe. "Original Poems and Others," Fred. D. Stokes Co., New York.

CHAPTER XXII

THIRD GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: SAFETY AND HEALTH

Age 8–9 years.

Time Division: See First Grade.

Aims and Purposes

General Aim

To expand the idea that "safety first" means health and health means "safety first."

Teacher's Aims

To teach children that health is "safety first," and that "safety first" recognizes accident situations and prevents avoidable disease and avoidable accidents.

Children's Aims

To learn that health is "safety first,' and that "safety first" recognizes accident situations and prevents both accidents and disease.

Theory or Thought Content

I. **Introduction: Review of Personal Health Habits of Cleanliness, Correct Eating, Sleeping, Exercise, Posture, etc.**

II. **Accident Situations**

A. At home.

1. Review story of "The Three Giants.*
2. Illustrative material—National Safety Council charts.†

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* See page 226.
† See Chapter on Safety Education, page 126.

"The Traffic Cop"

Courtesy National Safety Council

B. On the street. (Crossing the streets, safety zones, etc.).

C. At school. (Playground, schoolroom, etc.)

III. **Protection of Self**

A. Preventable accidents. Glass, nails, street cars, motor cars, bicycles, skates, horses, dogs, play apparatus, electric wires, gas, gasoline, matches, bonfires, fire works, etc. Illustrative material—National Safety Council charts.

1. At home.
2. At school.
3. On street.

B. Preventable diseases, how to avoid.

1. Do not "swap" gum or food (half eaten.)
2. Do not go where you know someone is sick, unless especially told to go by an older person.
3. Join the fight against flies and mosquitoes.
4. Eat clean food.
5. Drink pure water.
6. Drink pure milk. (no tea or coffee.)
7. Have clean hands.
8. Have fresh air, out doors, indoors, at night.
9. Play outdoors.
10. Ten hours' sleep.
11. Cultivate good posture.*
12. Use your own toilet articles.

IV. **Protection of Others**

A. "Don't cough or sneeze without a handkerchief, please."

B. Do not use others toilet articles, pencils, napkins, towels, etc.

C. Protect your community from fires. Visit your local fire department.

1. Fire waste to property and to life.
2. Fire prevention.
   a. Do not play with matches.
   b. Do not build bonfires.
3. Gasoline.

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* See Chapter on Posture, page 148.

4. Oil.
5. Gas.
6. Be sure to remind mother to turn off electric iron.

D. Do not touch an electric wire, report wires which are broken and on the ground.

Review "Story of Three Giants," page 226.

E. Protect eyes of baby brother or sister.

F. Protect own eyes.

See story "Pete," page 223.

G. Keep baby brother and sister away from disease and other dangers.

STORIES FOR THE THIRD GRADE

Accident Prevention

"Fairy Careful and Fairy Careless."*
"The Three Giants."
"Pete." "Why Ned's Example Would Not Come Right."* (Eye Protection.)

Stories from Waldo's "Safety First for Little Folks," and Bailey's "Sure Pop and the Safety Scouts."

Disease Prevention

"Story of the Rain Barrel." †
"Story of Malaria." ‡
"Mr. Fly and Mrs. Mosquito."*

Personal Health Habits

"The Brushes' Quarrel."*
"Billy's Pal."* (On keeping things out of mouth.)
"Nancy's Dream."* (Fresh air.)
"The Prince and the Robber Children."* (Good posture.)
"Old Scowly Spine Pack."* (Good posture.)

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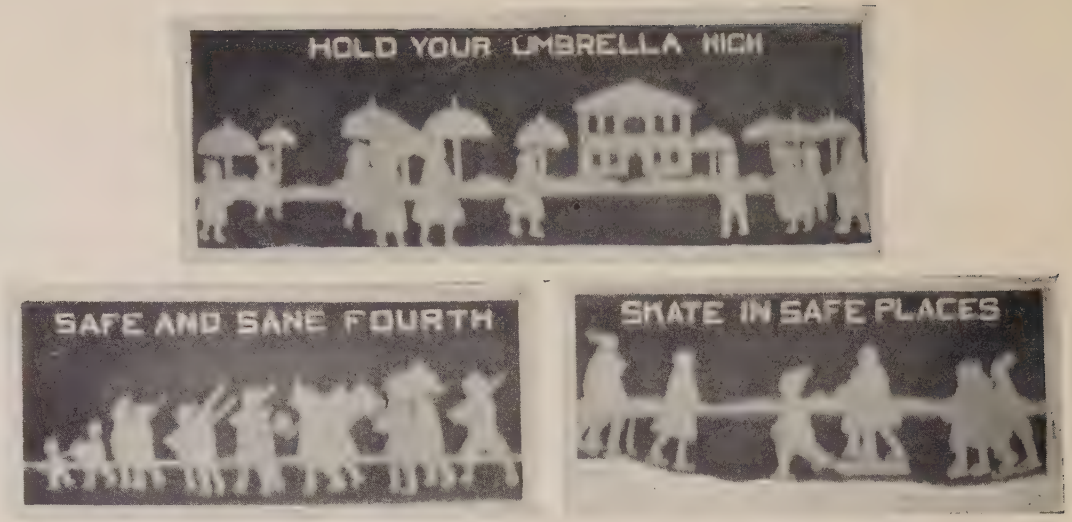
* See "Health Training in Schools." National Tuberculosis Association, New York.

† See page 231.

‡ See page 232.



Cut Paper Work by Third Grade Children for Health Week Exhibit

Christmas Story

"The Stories the Christmas Seals Heard," from Teaching Health Through Stories, The Iowa Tuberculosis Association, Des Moines, Iowa.

Playlets for the Third Grade

"The House the Children Built." *
"The Magic Oatfield." *
"The Little Vegetable Men." *
"The Wonderful Window." *

Note: Original playlets and pantomimes developed from the class work on safety and health.

LAUNCHING THE SAFETY AND HEALTH IDEA

How many of you remember the story "Fairy Careful and Fairy Careless?" Well, John, what did Fairy Careless make Carl do? Yes, she made him careless. What happened to him? Yes, he stepped on a nail. What did Fairy Careful do? Yes, she kept him from having accidents. Who can tell me what an accident is? Yes, Mary, that is it. "Something that happened when it need not have happened." Who has had an accident? Yes, Jane spilled ink on her new dress and books. John hurt his toe, Jim cut his finger. I expect every one of you can name some accident that has happened to you. What causes these accidents? There, May knows. "It is not looking or not thinking."

Do any of you remember the story of "The Three Giants?" I shall tell you about it tomorrow. Today there is a song I wish you to sing because it will help you enjoy the story tomorrow. Do any of you remember the "Tea Kettle Song?" You do? Let us sing it.

After the story and open discussion next day, the teacher suggests that she has still another story on safety—"In fact, two whole books of Safety Stories." ("Safety First for Little Folks," and "Sure Pop and the Safety Scouts" furnish story material for class discussions and blackboard lessons for the first semester.)

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* Little playlets from Eleanor G. Griffith's "Cho-Cho and the Health Fairy." American Child Health Association, 370 Seventh Ave. New York. 7c. each, 25c. set.

Procedure

September–January: After a medical examination of the children, make review of personal health habits. This may be done by introducing the ideas with a series of new stories on health habits. Use calendars for morning inspection, and later a "Safety First" honor roll, class room poster, to take the place of the second grade good American honor roll. This adds ideas of "safety first" to the other rules of the Health Game.

The new problem should be started with the stories suggested under "launching the health and safety work," and developed with class reading and stories told by teacher. This will bring out class discussions, dramatizations and pantomimes on safety ideas. Develop a safety scout club as an outgrowth of this interest. Have posters, and slogans on "safety first" made and let fire drills be a regular part of class room training. Celebrate "fire day." Simple first aid in pantomime and in real accidents as they occur on the play ground will add interest.

"Sure Pop and the Safety Scouts," furnishes material which makes it easy to arouse enthusiasm over becoming safety scouts. A safety play may be evolved from this story and after certain lessons of carefulness and thoughtfulness have been learned, each child may earn a safety button.

The third grade civic consciousness may be further developed by giving the children responsibility for the care and protection of the first and second grades.

February–June: The second semester may be centered around health ideas that prevent disease, though disease itself should not be over-emphasized. The readers to use are: "Rosy Cheeks and Strong Heart" and "The Land of Health." The safety idea may be closely correlated with health throughout the entire year.

Have the third grade develop a safety pantomime from "Sure Pop and the Safety Scouts" to be used in the inter-class health pageant in April. They may also enter into a civic clean-up campaign in March and a "health day" celebration in May. Their commencement exhibition may include many delightful safety ideas, such as a sand table problem of "Sure Pop and the Safety Scouts" at work in Safety Town, and a number of posters and safety books.

THIRD GRADE GROUP FROM THE INTERCLASS HEALTH PAGEANT

Text

A regular text is not required, but a number of supplementary readers on safety and health may be used.

Supplementary Health Readers

Waldo, L. M. "Safety First for Little Folks," Charles Scribner's Sons, New York. Price: 64c.

Bailey, Roy R. "Sure Pop and the Safety Scouts," World Book Company, Yonkers, New York. Price: 72c.

Andress, J. M. and A. T. "Rosy Cheeks and Strong Heart," American Child Health Association, 370 Seventh Ave., New York. Price: 32c.

Hallock, Grace T. and Winslow, C. E. A. "The Land of Health," Charles E. Merrill Co., New York. Price: 72c.

REFERENCES FOR TEACHERS

Bureau of Standards, Department of Commerce, Washington, D. C. Bulletin No. 75, "Safety for the Household," Price: 15c.

Department of Education, Washington, D. C. Bulletin, "Civics for the First Six Grades." Price: 15c.

Gulick, Charlotte, V. "Emergencies," Ginn & Company, Boston. Price: 64c.

Jewett, Francis G. "Health and Safety," Ginn & Company, Boston. Price: 68c.

Payne, George. "Education and Accident Prevention," Lyons & Carnahan, Chicago. Price $1.00.

New Jersey Course of Study for Physical Training. (Section on Safety Education.)

National Safety Council, 168 N. Michigan Ave., Chicago, Ill. (Bulletins, pamphlets, pictures, charts, etc. For further information see Chapter on Safety Education.)

Safety Education for Oregon Schools. (A Manual on Safety Education.)

Weeks, A. D. "The Avoidance of Fires," D. C. Heath & Company, New York. Price: 75c.

CHAPTER XXIII

INTRODUCTORY TO THE INTERMEDIATE GRADES

Physical Growth. There is a general lull in physical growth of the pre-adolescent group, particularly with boys. The brain has about ceased to grow, and the heart is still small in relation to the size of the arteries.* It is often said of the boy, "He is as hard as a pine knot," "You can't kill him," "Nothing hurts him;" of the girl, it is also often said, "She is never ill." While it is believed that children of this age have a high resistance to disease, no doubt they have many petty illnesses. In some instances these petty discomforts are signs of insidious disease that are unnoticed because of the child's natural sensitiveness, independence and stoicism, or the frequent lack of mutual understanding and sympathy between children of this age and adults. Medical examinations show many remedial defects, especially of the teeth. Four out of five children are apt to show dental defects, usually dental caries due chiefly to lack of proper care.

Children of this age are always hungry. Dr. Rose† estimates that the food requirements of children from eight to twelve is 1700 to 2000 calories per day. She insists that the quart of milk required for younger children should still be continued as the basis of the diet. The diet as a whole should consist of a variety of simple, wholesome foods, with emphasis on bulk, rather than highly concentrated or highly seasoned foods. Unless the child is below weight the three regular hot meals should satisfy his needs.

During the pre-adolescent period physical activity is at its height. Games of chase reach the highest peak of interest. Ring and string games are also popular. In fact children of this age are interested in

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* Norsworthy and Whitley, "The Psychology of Children." The Macmillan Company, New York.

† Rose, M. S. "Feeding the Family," The Macmillan Company, New York. pp. 148, 159.

a variety of games. Special interest in skill and ability develops rivalry in various activities, therefore stunts are very popular.

Mental Growth. The intermediate grade child is still weak in his reasoning ability, but this power is slowly developing. His perceptive powers are still strong, for he is a close observer and has a strong interest in nature collections and in pets. Imagination is active. He is susceptible to suggestion, particularly from his playfellows. With both sexes historical and literary interest centers around adventure, action and hero worship. Critical judgment and memory are strengthening. According to Dr. Johnson: "It is a golden period for memorizing and drill."* Clouston also emphasizes this fact. He says, "The coördination of the muscular action and the senses are rapidly reaching a fine point of adjustment. Therefore particular emphasis should be given to drills and the formation of neuro-muscular habits." Skill in arithmetic drills, language, the arts, and in construction is easily developed.

Social Growth. The pre-adolescent child interest in games, while still selfish or individualistic, is becoming more coöperative. He is interested in playfellows of his own age and sex but shows little interest in the opposite sex. There is usually a high disdain on the part of the boy for the girl if she does not excel in games and sports, unless she is, in fact, the tomboy she should be at this age. Only this type of girl can tolerate the roughness of the boy at this period. As a rule, adults and younger children are tolerated but are not congenial companions. This lack of understanding between the adult and the impulsive, energetic, investigating, pre-adolescent child is sympathetically discussed by Dr. Norsworthy and Dr. Whitley in their comprehensive cross section study of the child at eleven. Both parents and teachers are strongly advised to read their discussion on the subject.†

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*Johnson, G. E. "Education by Plays and Games." Courtesy of Ginn and Company, publishers, Boston. p. 155.

†Norsworthy and Whitley. "Child Psychology," The Macmillan Company, New York, pp. 290-309.

CHAPTER XXIV

FOURTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: SHELTER, CLOTHING AND PERSONAL HEALTH

Age 9–10 years

Time Division: 30 minute period each day*

General Aim

To pursue the subject of personal health habits by varying and broadening the approach.

Teacher's Aims

To instruct pupils in

1. Care of their own bodies through very elementary physiology.
2. Hygienic clothing—kind, usage and care.
3. Hygienic shelter—home-building.
4. Simple home nursing.

Pupil's Aims

To learn

1. About care of his own body.
2. About clothing—kind, usage and care.
3. How to locate, plan, construct, finish, equip and care for a model playhouse.
4. About simple emergencies and home nursing.

Text

The fourth grade is the first grade to have a text book in health. This outline is planned for use with the following books from the

*If the children have a regular physical education period twice a week the health lesson may be omitted on those days.

Haviland Modern Physiology, Hygiene and Health Series. J. B. Lippincott Co., Philadelphia.

Primer. "The Most Wonderful House in the World." (Use first semester.)

Book I. "The Playhouse." (Use second semester.)

Volume I of the Andress Health Series "A Journey to Health Land," Ginn & Co., Boston, is also highly recommended as a text for children of the fourth grade.

Situation

Children have been given a medical examination, so that teacher is in possession of the facts of their personal needs.

Launching the Fourth Grade Health Work

Health Crusade chores may be introduced by the story "How a Boy Became a Knight," from "Health Training in Schools." After the discussion of the health chores, morning inspection may be turned over to the "good health habit" committee of the fourth grade health club.

Theory or Thought Content

I. Personal Health Habits

(Checked by Health Crusade score cards.)

II. Body Hygiene

(Guided by content of text but broadened with other stories and playlets.)

A. The skeleton. "The Framework of the House." (Text.)

1. Importance of good posture.
   a. Standing.
   b. Walking.
   c. Sitting.

   Demonstration of correct and incorrect postures. Illustrative material. Stories.

B. The muscles. "The Spirit of the Willow Tree." (Text.)

1. How they help us to move.
2. How they help us to stand erect.
3. Need of exercise and food.

C. The need of sleep. "The Land of Somnus." (Text.)
D. The lungs. "The Air-Road."
E. The digestive tract. "The Witch, Indigestion." "Stoking the Engine." (Text.)
   1. The right kinds of food.
   2. Clean food.
   3. Table manners.
F. The skin. "How We Are Wrapped Up." (Text.)
   1. Our skin's business.
   2. The care of our skin.
      a. Bathing.
      b. How often to bathe.
      c. Kinds of baths and soap.
      d. Individual towels.
      e. Clean hands.
      f. Clean hair.
G. Care of cuts and bruises.
H. Care of the teeth.
I. Care of the eyes.
J. Care of the ears.
K. Something about flies.
L. Something about drinking water.

III. Clothing

Introduced by story, "The Clothes We Wear." (Text.)

A. Kinds.
   1. Cotton.
   2. Wool.
   3. Silk.
   4. Linen.
   5. Rubber.
B. Uses.
   1. What to wear.
   2. When to wear.
   3. Seasonal changes.
   4. Sun and rain clothes.
   5. Simple clean clothing suited to the time and weather.

C. Care.
   1. How to clean and air.
   2. How to keep in order.
   3. Night clothes.
   4. Bed clothes.

IV. Shelter (The Home)

A. Location.
   1. Neighborhood.
   2. Drainage.
   3. Placing (direction of facing).
   4. View and landscaping.

B. Construction.
   1. Material.
   2. General floor plan—cellar, attic, windows, doors, heating, etc.

C. Finishing.
   1. Outside.
      a. Paint.
      b. Stain.
      c. Plaster.
   2. Inside.
      a. Walls.
      b. Woodwork.
      c. Floors.
      d. Screens.
      e. Plumbing.

D. Equipment.
   1. Furniture.
   2. Rugs.
   3. Draperies.
   4. Books.
   5. Pictures.
   6. Musical instruments.
   7. Bed linen, table linen, kitchen linen.

E. Care.
   1. Cleaning.
   2. Ventilation.

3. Waste disposal.
   a. Garbage.
   b. Sewerage.

F. Making and dressing Ruth and Paul, the resident owners of the playhouse.

G. Fire prevention.
   1. In construction. (Chimneys, flues, etc.)
   2. In care. (Safety matches, mice riddance, high fire fenders to protect baby, etc.)

H. How to prevent accidents.
   (One committee of health club may be the safety committee active throughout the entire year.)
   1. In the home.
   2. In the school.
   3. On the playground.

(Dramatize home and school accidents in class with first aid treatment. The care of any simple accidents at school give an opportunity for real first aid.)

1. Emergencies.
   (First aid and home nursing.)
   1. Simple first aid.
      (Studied in class.)
   2. Simple home nursing.
      (Studied in class.)

(Make a medicine cabinet for the playhouse bathroom and a big one for the class-room if practicable. Have bed making with patient (doll) in bed and out of bed demonstrated and worked out as an individual assignment. The little girls may make the household linen for the playhouse while the little boys make the furniture.)

STORIES FOR THE FOURTH GRADE

Personal Health Habits

"How a Boy Became a Knight," * "The Wooden Horse of Troy," "The Brushes' Quarrel," * from Winslow's "Healthy Living," Volume 1.

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* See "Health Training in Schools." National Tuberculosis Association, New York.

"Clovis, the Boy King," "A Queer Case," from Jones' "Keep-Well Stories."

Care of the "Most Wonderful House in the World"

Muscles

"Our Unseen Servants," "Strong Men of Old Times and of Today," from Winslow's "Healthy Living," Volume 1.

Organs of the Body

"The Parts of the Living Machine," "Keeping the Doctor Away," from "The Silent Reader," Book IV Lewis and Rowland.

Clothing

"Dressing to Go Out," Winslow's "Healthy Living," Volume 1.

First Aid

"The Care of Cuts and Wounds," Winslow, Volume 1.

Christmas Story

"The Really, Truly Christmas Tree," Louise F. Brand.*

Procedure

September: Make the first health work of the fourth grade a review of personal health habits. These may be checked by the Health Crusade score cards according to directions. During the first month, give each child an opportunity to make a short talk on an assigned personal health topic. Each talk may be illustrated with a chart made from a picture cut-out brought by the child and mounted with the help of the teacher. After the talk the poster may be lettered with colored crayon by the teacher, using the name suggested by the class after the talk. The posters developed in this way should be saved and put up in the class room. The talks may be a part of the opening exercises, given immediately after morning inspection. After the Health Crusade campaign, check personal health habits through the good health habit committee of the health club. The routine may be changed from time to time according to suggestions given by the teacher, who should embrace every opportunity to

*Also in "Health Training in Schools." National Tuberculosis Association, New York.

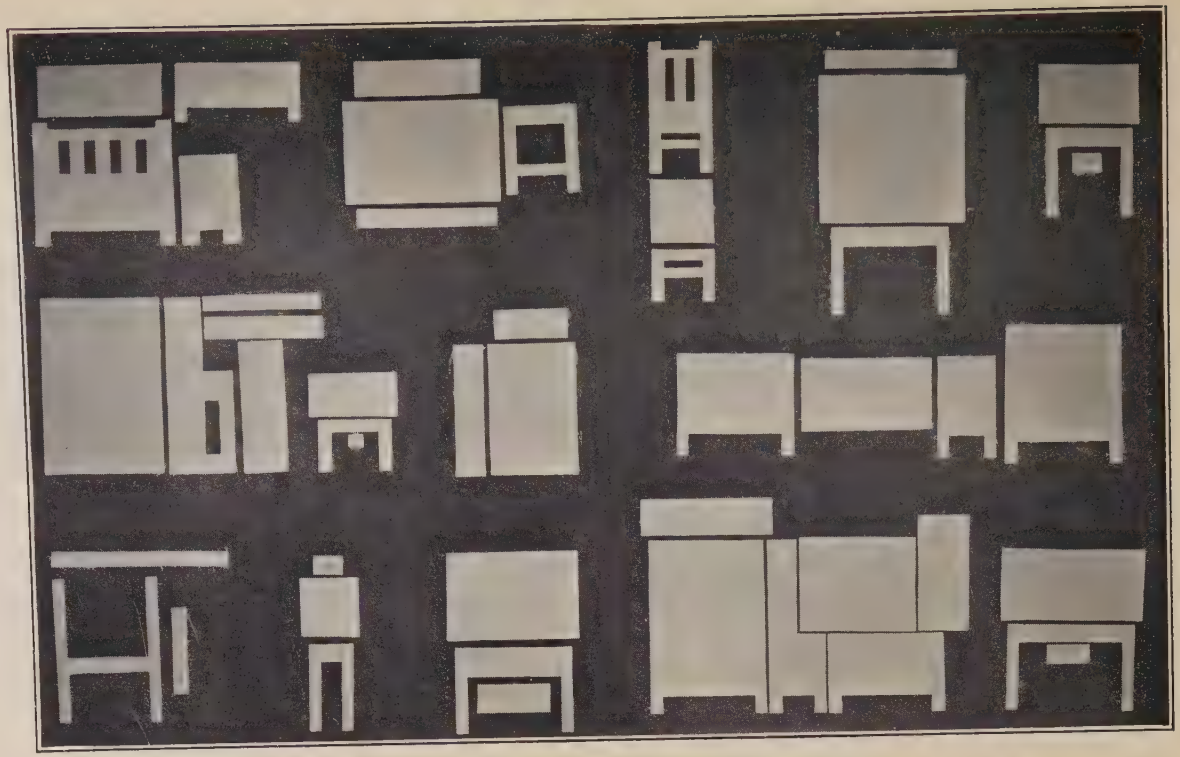
emphasize habits of cleanliness, neatness, good posture, cheerfulness, correct eating, sleep, and exercise.

October–January: A review of personal health habits should be used to arouse a fresh interest in care of the body, reinforced by the use of the Health Crusade score card as discussed in the approach to the work. The study of the text may then be started and this will serve as a stimulating guide for the remainder of the first semester. Additional stories and illustrations will help to keep this very elementary study of the body, its functions and its care, free from technicalities. The writer strongly advises the teacher against the use of any detailed study of the structure or functions of the body, and certainly against technical terms. What the story does not teach had better be left until another time, for the fourth grade child is not and should not be interested in pure physiology.

An interesting and instructive problem to work out during the first semester is a careful study of the teeth. The lessons may be introduced with the story "Table Ware," from the text. This may be followed by Winslow's story "The Brushes' Quarrel" and a detailed study of the teeth as outlined in Ferguson's "A Child's Book of the Teeth." A series of cut-paper posters, red, white and black, mounted on cream, may be made from the sketches in the last named book, while a cut-paper "Grinder Brigade," will make a fascinating frieze for blackboards.

Use the promise of a new story of a wonderful playhouse to lead up to the discussion of different kinds of houses, with which the children are familiar. The story in question is in the second volume of the text, "The Playhouse." This delightful book will fire the children's interest in its practical application to shelter problems in the construction, equipment and care of a model playhouse of their own. The construction, equipment and care of this playhouse should follow closely the plan outlined in the text.

February–June: After the idea of building the playhouse is launched, the problem will run itself. The enthusiasm aroused on the first day may be projected into the next lesson by a suggestion from the teacher that the class think over the plan until next day and bring any suggestions they wish to offer. This usually meets with hearty response. To quote from the experience of a teacher in using this project:



Furniture Patterns Made by Fourth Grade Boys for the Model Play House

"There was not a child in the room who did not offer some contribution the next day. The fourth grade was enthusiastic, everybody wanted to have a part. Some excellent floor plans and drawings of houses and furnishings were contributed. Some of the boys knew the next day where materials might be had. Others offered practical advice on chimneys, plumbing, pitch of roof, and other technical points, gleaned from home discussion or personal survey after school. Several girls brought ideas of linens and pictures of their problems. Some brought scraps of linen and lace, while one little girl brought material and wanted to make the mattresses, suggesting that she could bring feathers and knew just how to make the pillows. Another little girl had had a lesson over night from her grandmother on how to weave rag rugs.

"Both the girls' and boys' problems were taken up in class discussion. The blackboard was used to check ideas, and there were helpful suggestions from each side for the other. The boys' problems were the constructing of the house itself and the making of the furniture; the girls' problems were the making of household linens, draperies, rugs, mattresses, pillows, runners, etc. When the actual construction, sewing and weaving problems began, the enthusiasm ran so high that the teacher had to insist on recess.

"As a problem in correlation, the project proved most effective. The scale of proportion and measurements made interesting arithmetic correlation, the sources of material brought the geography down to an every-day plane of interest, the study of period houses enlivened history, and interesting English correlation came up from oral reports on different problems. The individual booklets on 'My House Plans' made of picture cut-outs, were splendid art correlations. Civic problems were constantly in the foreground. In fact the entire school program and all available reference books served to enrich the project problems of building and equiping 'Our Playhouse.' The illustrations of the patterns of the furniture and the finished furniture in this book show something of the detailed successes of the minor project problems leading to the building up of the major project.

"Further study of clothing was made through household linens, draperies, etc., needed for the new playhouse, and the clothing for the two dolls, Ruth and Paul, who were the rightful owners of the playhouse as they were in the book. Additional study of the body's natural covering, the skin, and its care was launched through a play-ground accident where simple emergency (first aid) was applied to a cut.

This also started the study and practical demonstration in home nursing and first aid, which led to the building and equiping of a small first aid cabinet for the playhouse bathroom and a large first aid cabinet for class use. Much of the home nursing and first aid was applied to the resident owners of the playhouse, Ruth and Paul, and whenever an accident occurred on the playground it was used to further interest in the subject.

"The results were far more than the well planned playhouse, with its sturdy and dainty furnishings exhibited with so much pride by the fourth grade at the commencement exhibit. There was unity of spirit, a ready co-operation that came from this well-guided self-expression that improved the poise and confidence of every child in the class. Later, when other problems came up, this same spirit was evident. For the inter-class health pageant, this grade worked out a delightful household scene, where the heart of the home, 'The Fireside,' called all its fairy helpers for a conference."

The weekly meetings of the health club should be used to develop incentives for many different phases of health work, which may be carried through by special committees, such as: "Good Health Habits Committee," "Safety First Committee," "The Good American Committee," "The Humane Committee." The Health Crusade and Junior Red Cross activities also add interest to the work. Many health stories and playlets may also be used.

The twenty suggestive chapters of the text will serve as guide for the second semester procedure. However, a wide list of supplementary readers and reference books should be used to expand the ideas presented. House plan booklets following the text outline should be carefully planned and executed by the children.

Another problem which may be worked out if "A Journey to Health Land" is used as the text is the construction of a health moving picture show, the children writing the scenario and constructing the reels. A soap box with a front of decorated beaver board may be used and the reels may be made of wrapping paper tacked at each end to a short section of a broom handle. After completing the cut-paper illustrations for the reel, insert the broom handles in holes made with an auger in the top and bottom of the long side of the soap box and manipulate the reel with a small crank.

FURNITURE FOR DOLL'S HOUSE *(See Patterns, Page 323)*

MINOR PROBLEMS FOR THE FOURTH GRADE

1. Health charts made by children on personal health habits, to be used as starting point by short talk from pupils making each. Subjects assigned ahead.
2. Making furniture for the play house. (Medicine cabinet.)
3. Making linens for the play house.
4. Making and dressing Paul and Ruth for play house.
5. Bean bags.
6. Cup towels.
7. Bed linen.
8. Making booklet.
   Book I. "My Clothing."
   Book II. "My House Plans," made of pictures, cut-outs, and suitable prose or poetry describing them.
9. Keeping class room weight chart by pupils.

Inter-Class Project-Problems

1. Pet day. (September).
2. Fire prevention week. (October).
3. Junior Red Cross Christmas boxes. (October.)
4. The health circus. (November.)
5. Christmas Seal campaign. (December).
6. Civic clean-up campaign. (March.)
7. Inter-class health pageant. (April.)
8. Health week. (May.)
9. Commencement exhibit. (June.)

REFERENCES

Brooks, "The Story of Cotton," Rand McNally & Co., New York. Price $1.00.

Chamberlain, James F. "How We are Clothed," "How We are Sheltered," "How We Travel," The Macmillan Company, New York City. Price 88c each.

Colson, Elizabeth. "The Child Housekeeper," Lloyd Adams Noble Co., New York. Price 50c.

Floor plans, decorations, etc., see "Good Housekeeping," "Ladies Home Journal," "The House Beautiful," "House and Garden."

Guerber, H. A. "Yourself and Your House Wonderful," Uplift Publishing Co., Philadelphia. Price $2.00.

McMurry, C. A. "A Cotton Plantation," address Author, c/o George Peabody College for Teachers, Nashville, Tenn. Price: 15c.

Lewis and Rowland, "The Silent Reader," Book IV, John C. Winston Co., Philadelphia. Price 72c.

CHAPTER XXV

FIFTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: FOOD AND HEALTH

Time Division: Same as Fourth Grade (see page 316)

Teacher's Aims

To teach the children some elementary physiology through the development of health habits and a vitalized study of the connection between food and health.

Children's Aim

To learn how and why to have good health habits* and to learn how and why food plays such a large part in the health of the human race.†

Text

The health work in the fifth grade may be planned to correlate with the domestic science course. No regular text book is required if this plan is followed, though the following books may be used as references:

Chamberlain, James F. "How We are Fed, How We Travel," The MacMillan Company, New York.

Colson, Elizabeth. "What My Children Love to Eat," Lloyd Adams Noble Co., New York.

Fryer, Jane E. "The Mary Frances Cook Book," The John C. Winston Co., Philadelphia.

Ritchie, John W. "A Primer of Physiology," World Book Co., Yonkers, New York.

If a text book is desired, "The Boys and Girls of Wake-Up

*Remember that the more the children enter into the discussion and plans and the more self activity is developed the more the health work will enter into their lives.

†In teaching the food and health correlation in the fifth grade, all subject matter must be scientifically accurate but free of all technicalities.

Town" by J. Mace Andress is recommended for the first semester and "Health and Success" by Andress and Evans for the second semester. Ginn & Co., Boston.

Launching the Food and Health Idea

Weigh and measure children and keep a record of weight and height from month to month on classroom weight record chart, and also on individual health card. Give each child his report to carry home, but before doing this a practical but tactful discussion of the causes of malnutrition should be given. The children should be allowed to offer suggestions and through a blackboard lesson, guided by skillful questions from the teacher, an outline can be evolved similar in theory and thought content to that given below.

THEORY OR THOUGHT CONTENT

I. **Personal Food Problems**

A. General discussion of foods.

1. A series of blackboard lessons on correct and incorrect foods.
2. Pure milk, how to get it. (Playlet. "The Milk Fairies.")
3. Whole wheat bread.
4. Fruits, vegetables.
5. Meats.

B. Causes of malnutrition.

A discussion of the major causes of underweight for height and age offers an excellent opportunity for review of personal health habits. In the fifth grade the following causes can be profitably studied.

1. Past illness—mentioned but not stressed.
2. Present illness—discussed briefly and generally, never specifically for this is business of doctor, nurse, teacher and parent, not the child.
3. Defects—particular emphasis on those which children can help correct, namely—bad teeth, defective vision, defective speech, incorrect posture, etc.

4. Poor personal hygiene as insufficient sleep, rest, fresh air, outdoor play, sunlight; uncleanliness; poor elimination from bowels; incorrect diet and bad eating habits.
5. Unhappiness, worry.

C. Make daily menus suited to
1. Normal fifth grade children.
2. Underweight fifth grade children.
3. Overweight fifth grade children.

D. Study school lunch.
1. Menus, according to calories, cost etc.
2. The hot school lunch.
3. The lunch brought from home. (Preparation of basket lunch.)
4. Foods children should eat at lunch.
5. Foods children should not eat at lunch (pickles, candy, ice cream, etc.)

II. The digestion of food

The journey of the food—the human food train. How foods are prepared for their journey in the mouth. What the stomach does for them, the liver, the intestines, etc.

A. The organs of digestion.
Blackboard drawings by teacher. Free hand paper cutting of organs of digestion by children for their health books.

B. The process of digestion.

C. Teeth and digestion.
Vitalized by review of Ferguson's, "A Child's Book of Teeth."
Tooth brush drill and play "The Brushes' Quarrel."

D. Posture and digestion.

E. Alcohol and digestion. Gulick Hygiene Series, Book I, "Good Health" Chapter XVI–XVII. Ginn & Co.

F. Elimination of body wastes.

G. Table manners.
   1. Preparation for meals.
      (Clean hands and face, neatness of appearance).
   2. Cheerfulness.

H. How our food travels in our body—blood stream.
   1. Review digestive tract.
   2. Blood stream carries food.

I. What becomes of our food.
   1. Some makes muscle.
   2. Some makes bone.
   3. Some makes energy.
   4. Some regulates body processes.
   5. Body wastes.
      a. Elimination from bowels daily assisted by
         1. At least 4 glasses of water daily.
         2. Regular hours.
         3. Bulky food.
         4. Exercise.

J. Need of fresh air—oxygen to burn up food.
   1. How to breathe.
   2. Good posture.
   3. Sleep with windows open.
   4. Play outdoors every day.
      No need of fuel if engine is going to stand still; coal needed for motion. Food is the fuel for body engine.

III. Community and family food problems

The getting of foods.

A. Sources of food.
   (Excellent geography and history correlation).
   1. Food grown, manufactured or preserved in immediate environment of child. (Discussion followed by surveys or field trips).
   2. Other sources of food.
      a. Transportation of food.
   3. Our trip around the world for food.
      a. Our preparation.
      b. How we traveled.

c. What foods we found.
d. Who they were prepared and served by and how they were sent to home folks.

B. Preservation of food.
(Field trips and reports by small groups).
1. Cold storage for quantity.
2. Refrigerator for home use.
3. Canning.
4. Preserving.
5. Drying.
6. Smoking (meat).
7. Pickling (meat).

C. How foods may be spoiled.
1. Flies.
2. Heat.
3. Dust and dirt.
4. Unclean containers.

D. Safety first problem.
1. Pure food laws.
2. Food and sanitary inspectors.
(Who are local inspectors, what do they do?)
3. Contaminated food.
4. Diseased food.
5. Spoiled food.

E. Care of food.
1. At source.
2. In transit.
3. In homes.
a. The refrigerator.
b. Canning, etc.
4. In stores.

IV. **Cooking of food**

(Introduced by "Mary Frances' Adventures among the Kitchen People," a supplementary reader.)
1. Safety first in use of cooking appliances.
a. Open fire places.

b. Outdoor cooking.
(Camp cooking demonstrated by a school picnic where part of food is cooked outdoors).
c. Coal, wood, gas, or electric stoves.
d. Gas, oil, gasoline, or alcohol.
e. Fireless cookers.

2. Preparation of food for cooking.
(Vitalized by lessons in domestic science discussed in hygiene lessons).
3. Ways of cooking.

Procedure

September–October: Organize the Health Crusade leading to the awards as outlined by the Crusade score cards for the fifth grade to check the personal health habits of the children. Pupil monitors may look after details of these records.

Organize a good health club, with special committees in charge of different problems, as good posture, ventilation, sanitation, safety and playground activities. The beginning of the classroom work on food and health as outlined in Launching the Food and Health work should continue with individual lists of food, menus for specific purposes, (school lunch, picnics,) specific food requirements for certain ages, as the baby, the primary grades, grammar grades, old age, etc. Interest may be stimulated by health stories and by health playlets.

Build up a booklet on food and health around the work done, and use it as a class record of progress made. Add one or two new pages a week to keep it up to date.

Have each child make a poster on a food subject, as good food for baby, for school children, for sick people, to illustrate a short talk on a special assignment, as milk, fruit, vegetables, sleep, etc.

November: Have the children write original health playlets on such themes as The Food King and his Court; Johnny's Thanksgiving Visit to Grandmother. Tell story "The Kingdom of the Greedy," page 234.

December: Red Cross activities, introduced by study of the food of children in other lands, the need of foods for certain countries. How America helped to feed the hungry world during the war. How

young America may help anti-tuberculosis activities and Christmas seals.

January: The digestion of food—as outlined under Thought Content. Special emphasis on hygiene of eating—table manners, cheerfulness at meals, thorough mastication, eating at regular hours, plenty of sleep, clean teeth, good posture, elimination of body wastes (some bulky, some raw foods daily, plenty of water, regular hours for evacuations, exercises for strengthening abdominal wall and improving elimination, bed exercises, walking and outdoor play).

February, March, April, May and June: Family and community food problems; food getting; protection and preservation of foods.

For Health Week and Commencement Exhibit have the fifth grade make a set of charts on food and health, booklets, a model city block, a model market, a freize of the kitchen people, worked out from Mary Frances' Cook Book, food games, and carefully prepared menus.

Some Playlets for the Fifth Grade

Write for the circular "Plays and Pageantry." National Tuberculosis Association, 370 Seventh Ave., New York.

Some Health Stories for the Fifth Grade

"The Milk Fairies."* (tea and coffee).

"The Story of William Tell." † (tobacco).

"Richard the Lion Hearted." † (on the blood).

"A Button, A Button, Who has the Button." † (contagious diseases).

"Why Alfred Did Not Have The Measles." †

"The Boy who walked around Mont St. Michel." *

"The Really Truly Christmas Tree."*

Fifth Grade Project Problems

1. Menu for the fifth grade.
2. Menu for the baby.
3. Menu for the three year old.

Food booklets, posters, etc.

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*"Health Training in Schools."
†Winslow's "Healthy Living" Vol. I.

Fifth Grade Group from the Interclass Health Pageant

A food map of the world may be constructed and used as a game by using tiny flags on pins with the name of a food, the object of the game being to locate the pin in its proper place.

An interesting minor project is a model city block made in sections and containing a model drug store, a model grocery store, a model milk depot and dairy, a model bakery, and a model city market.

Inter-Class Project Problems

Pet Day, Fire Day, Health Fair, Fly Week, Clean-Up Week, Accident Prevention Week, Health Pageant, and Commencement Exhibit.

Jingle—Written on health habits as portrayed in "Boys and Girls of Wake Up Town" Andress*

Tune—When Johnnie Comes Marching Home.

One time we lived in Drowsy Town
Alas, Alas,
We all were sick and then we frowned,
Alas, Alas,
But since we live in Wake Up Town
Our joys and pleasures know no bounds,
And we all feel gay since we live in Wake Up Town.

Cleanliness

We're never dirty now you see,
Hurrah, Hurrah,
We've found that water now is free,
Hurrah, Hurrah,
Our soap and bathcloth never rest,
We put them to the greatest test
And we all feel gay since we live in Wake Up Town.

Teeth

Our teeth they never know decay,
Hurrah, Hurrah,

*Jingles by Miss Mary Talley, Fifth Grade Teacher. Sung and dramatized by children as part of one of their assembly programs before entire school.

We keep them glistening in a row,
Hurrah, Hurrah,
We brush them every single day,
We've found the dentist surely pays,
And we all feel gay since we live in Wake Up Town.

Milk

We all come in with our glass of milk,
Hurrah, Hurrah,
It makes us feel as fine as silk
Hurrah, Hurrah,
We'll grow so fast, We'll grow so fine,
You'll see us coming right up the line,
And we all feel gay since we live in Wake Up Town.

Food

We now eat food that makes us grow
Hurrah, Hurrah,
Fruits, vegetables and cereals too,
Hurrah, Hurrah.
Just watch our weight chart and you'll see,
We're healthy now as we can be
And we all feel gay since we live in Wake Up Town.

Play

No longer hot house plants are we,
Hurrah, Hurrah,
We now are busy as can be
Hurrah, Hurrah,
We romp and play in nice fresh air,
Our merry shouts are everywhere,
And we all feel gay since we live in Wake Up Town.

Sleep

You'll now espy no sleepy eyes,
Hurrah, Hurrah,
We think our act is very wise
Hurrah, Hurrah.
We're in by eight and out at seven,
The hours we sleep are always 'leven,
And we all feel gay since we live in Wake Up Town.

Cleaners

With broom and dust cloth, rake and hoe,
Hurrah, Hurrah,
And willing hands we onward go,
Hurrah, Hurrah,
We keep it all so clean and neat,
From house and yard to village street,
And we all feel gay since we live in Wake Up Town.

Concert

We're happy now in every way,
Hurrah, Hurrah,
Old Silas Nod has had his day,
Hurrah, Hurrah,
We chased the lazy out of town
The day we laid our health laws down,
And we all feel gay since we live in Wake Up Town.

CHAPTER XXVI

SIXTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: CIVICS AND HEALTH

Ages 11–12 years.

Aims and Purposes

General Aim

To develop an active civic consciousness through participation by the children in civic health problems.

Teacher's Aims

To teach the children (1) how the community protects the health of its people, and (2) how children citizens can help in its health program.

Children's Aims

To find (1) how the community protects the health of its people, and (2) what the sixth grade as a class and as individuals can do to improve and conserve health conditions.

Text

The Bigelow & Broadhurst Health Series, Books I and II, published by Silver, Burdett & Co., New York City, is the text for the sixth grade.

"A Primer of Sanitation" by Ritchie (World Book Co., Yonkers, N. Y.) and "Town and City" by Jewett (Ginn & Co.—Gulick Hygiene Series, Bk. III) are used as frequent references.

Launching the Project

Begin with a careful medical examination and teacher's health survey leading to the checking of personal health habits. Then make the approach to community health first by a discussion of public

utilities introduced by pictures and story and a talk on some recent occurrence such as a street car accident.* After this let the pupils examine the contents of the text and develop a discussion of which topic is the most important to the health of the local community, illustrating with black-board drawings. The teacher should make use of any recent occurrence in the community which has a bearing on public health, such as an epidemic of any kind, and the measures taken to meet it.

Thought Content

I. Public Utilities and Supplies and How They Affect the Health of the People

A. Water.

1. Danger of impure water.
   a. Typhoid fever.
      (References: "Care of Typhoid Patient," Chap. V of this book.)
   b. Cholera.
   c. Hookworm.
      (References: "Primer of Sanitation," pp. 135–141, "Town and City," pp. 253–257, Chap. V of this book. Andress, "Health Education in Rural Schools," Chapter VII, "Good Neighbors," Chap. III.)
2. Sources of local water supply.
   a. How it may become contaminated.
   b. How it may be purified.
3. How other cities purify their water.
   a. New York City.
   b. "City Sanitation and the Reconstruction of Vienna, Hamburg, Berlin, Paris."
      (Type studies as below.)
   c. New Orleans, the Gulf port.
      (References, "Type Studies and Lesson Plans," address the author, A. C. McMurray, George Peabody College for Teachers, Nashville, Tenn. 15c.)

*See text Book 1, Chapter I.

B. Sewerage.
   1. Danger of sewage.
      a. Menace to water supply.
      b. Soil pollution.
   2. Sewage disposal.
      a. Safe methods.
      b. Unsafe methods.
      (References: U. S. Department of Agriculture Bulletins. U. S. Public Health Service Bulletins.)

C. Garbage disposal.
   1. Methods used locally.
      a. Closed garbage pail.
      b. Garbage wagon.
      c. Where carried and how destroyed.
   2. Methods used in other cities.
      (References: See text.)

D. Light.
   1. How generated.
   2. How distributed.
   3. The part lights play in making a city safe.
      a. From accidents.
      b. From robberies.
   4. Rate.
   5. Owners.
      a. Private.
      b. City.

E. Streets and sidewalks.
   1. Amount of pavement (its usefulness).
   2. Care of streets (how cleaned).
   3. Danger on streets (possible accidents).

F. Food protection at sources of supply.
   1. Milk inspection (at dairies and depots).
   2. Market (why screened).
   3. Groceries (why screened).
   4. Drug store (why screened).

G. Movies (why censored—mental and moral hygiene).

II. City, County and State Health Laws

A. Board of health (duties).
B. Full time county health officer (duties).
C. Full time county health nurse (duties).
D. Quarantine.
E. Isolation.
   1. How the community cares for its tuberculous.
   2. The mentally sick—state hospital.

III. What Can We, as Sixth Grade Citizens Do to Help Protect the Health and Safety of Our Community?

A. Be healthy and careful citizens.
   1. Train for health—athletic badge test for boys, athletic badge test for girls.
      (References: The Playground and Recreation Association of America, 315 4th Ave., New York City, 5c per copy of each contest pamphlet.)

B. Join the "Civic Clean-Up Campaign."
   1. Motto: "Clean up, paint up, keep it up."
   2. Be intelligent crusaders for public health.
      a. Study the contributions to public health by some of the generals of the public health army of the world.
         Jenner, Edward, who discovered vaccination in 1797.
         Pasteur, Louis, who formulated the germ or microbe theory of diseases and the treatment for rabies.
         Trudeau, Edward L., who, "while holding his own defenses," helped others to fight tuberculosis and gave his life to devoted study of its cure, 1848–1915.
         Reed, Walter, who gained control over yellow fever scourge.
         Gorgas, William C., who made Panama Canal Zone safe.

b. Study the vermin menace—mosquito, fly and rat.
c. Destroy breeding places of mosquitoes, flies and rats.

3. Help the publicity campaign by:
   a. Writing compositions for an inter-school prize paper contest on flies and mosquitoes.
   b. Making posters.
   c. Taking part in inter-class health pageant.
   d. Taking part in the inter-school street parade.

IV. Summary: A Checking of Results

A. What we have learned about the new public health.
   1. Man is the chief source of communicable disease.
      a. We must destroy all germs that come from the bodies of the sick (body discharges from nose, mouth, bladder and bowels).
   2. The chief carriers of disease germs are sick people and well carriers.
   3. Germs get into the body through nose, mouth or wounds. (Chief sources: direct contact, soiled hands, contaminated water, milk, food—uncooked fruit and vegetables, and contaminated soil.)
   4. If we use common precautions and keep our bodies in health we will escape most disease.

B. What we have done to help the health work in the community.
   1. We have been vaccinated against smallpox.
   2. We have been inoculated against typhoid.
   3. We have boiled our drinking water until water was safe.
   4. We have "cleaned up" ourselves, our homes, our streets, our school.
   5. We have tried to be careful citizens.
      a. To protect ourselves and others from accident.
      b. To protect ourselves and others from disease.

C. What else can we do to improve the health of the community?

D. What should we know about the hygiene of the worker? (Reference, Tolman, "Hygiene of the Worker," American Book Co.)

Procedure

September: Have the children make a survey of some public utility such as the water plant, and make special reports and talks which may be correlated with English work.

October: Lead on to a discussion of the part played by other public utilities and supplies in the maintenance of health of the people of the community. Divide the class into groups to make surveys and reports of the light plant, markets, grocery stores, etc. A model city block may be built of boxes carefully placed on a sand table and become later a nucleus for a model town to be used for the commencement health exhibit.

November: The study of local health laws can be introduced by a talk from the county health officer. Letters may be written to the state health department for copies of the state health laws and for bulletins on public health subjects.

December: Use Red Cross activities to develop the idea of service to the needy at home and abroad, and the story of the Christmas Seals to open the discussion for the Christmas seal campaign of the National Tuberculosis Association.

January: Health playlets may be presented at intervals by the sixth grade at the assembly hour of the school. The circular "Plays and Pageantry," listing health plays recommended by the National Health Council may be obtained from the National Tuberculosis Association, 370 Seventh Avenue, New York.

February: The second semester's work, "What can we, as sixth grade citizens, do to help protect the health and safety of our city?" is the natural outgrowth of the first. Begin with a careful re-checking of personal health requirements, cleanliness, neatness, sufficient sleep with windows open, outdoor play, etc., as a basis for training for the athletic badge contest for both boys and girls.

The safety idea may be expanded from safety from accidents to include safety from disease. Original mottoes and charts may be made on both subjects.

March: Have the class write a health story, as an English correlation. This may be afterwards dramatized by the children.

Below is an account of how a teacher made use of an inter-school prize paper contest, sponsored by a woman's club, as a part of the spring clean up campaign.

> "For the entire month of March the health work revolved around the program of the local woman's club which was put through by the coöperation of the club women, teachers, school children and business men. The old city laid out and used for many years as the state capitol is divided into four sections. Each sector has some historic center from which the workers led their campaign. Their colors were red, green, purple, and orange. Their mottoes were 'Make the old state capitol section worthy of the prize' or 'Make the old Lafayette Hotel section worthy of his memorable visit to us.'
>
> "The results of the clean-up campaign were most encouraging. Many excellent papers were written on flies, and mosquitoes by the children. The writers of the prize papers decided upon by the committee of judges were awarded their prizes at a mass meeting of citizens, including children from all schools. These prize papers afterwards appeared in the city papers. In addition to the educational results of the contest papers, many old buildings were torn down when great rat killing parties were held; garbage disposal was improved, some old wells were closed, and the civic pride of the entire population increased."

April, May: The work of the latter part of the school year may revolve around the careful checking of what has been learned during the year, how it has been applied, the practical results achieved, a preparation for the commencement exhibit with a short introduction to the hygiene of the worker.

Some Stories for the Sixth Grade

"The Wooden Horse of Troy." *
Stories of the lives of Pasteur, Jenner, Reed, Gorgas.

Health Playlets for the Sixth Grade

See circular, "Plays and Pageantry," issued by the National Tuberculosis Association, 370 Seventh Avenue, New York City.

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*Winslow's "Healthy Living," Vol. I.

Additional Means for Vitalizing Health in Sixth Grade

A club called "The Civic Health League" may meet weekly throughout the year.

If experienced leadership is available (see chapter VIII) a Little Mother's Club may be organized for the girls where simple talks on physical care of the baby and on their own individual health problems may be given. Particular pains should be taken to prevent shock to these sensitive chlidren, though the truth should be given to them frankly, and in a matter of fact way. A complete layette for the baby may be made by these children in their domestic art work and given to a needy person.

Some Correlations in Sixth Grade Health

Debates, compositions, and letters on health subjects make effective English correlations.

Suggested debate: "Resolved that the fly is a greater menace to health than the mosquito." Fly traps, swatters, cabinets for medicine, and individual drinking cups as manual training problems; posters and booklets as art correlations; measurements, dimensions, etc., as arithmetic correlation; contrasting health conditions of ancient, medieval and modern history for history correlations. A study of the type studies mentioned will add much to the interest of geography.

Inter-Class Projects

The celebration, by the sixth grade, of rat week, fire prevention day, accident prevention week, clean-up campaign, and May Day festival, opening health week, can each be made to contribute material to the social consciousness and loyalty of the entire group. The success of the project should be measured by the happiness and enthusiasm in the work and practical results achieved by it.

REFERENCES

Adams, Edwin W. "A Community Civics," Charles Scribners Sons, New York, Chapter on Civic Health. Price: $1.32.

Cooley, A. M. and Spohr, W. H. "Household Arts for Home and School," Volume I. The Macmillan Co., New York. Contains lessons on care of baby for little mother's club; also chapters on the family budget, home furnishings, textiles and sewing, selection of clothing. Price: $1.32.

Hill, H. W. "The New Public Health," The Macmillan Co., New York. Price: $1.50.

Rosenau, M. J. "Preventive Medicine and Hygiene," D. Appleton & Co., New York. Price: $10.00.

U. S. Public Health Service Bulletins. (See references on communicable diseases, Chapter V.)

Wood, H. B. "Sanitation Practically Applied," John Wiley & Co., New York. Price: $3.50.

CHAPTER XXVII

INTRODUCTION TO THE JUNIOR HIGH SCHOOL

THE UPPER GRADES

(Age 12–14 years)

Problems of the upper grades. Early adolescence is called puberty and like all other periods is not fixed by an exact age limit. Physiologically, it means the age of sexual maturity. However, it should be remembered here that there is frequently a difference of from six months to a year, sometimes more in the anatomical and physiological age among children of the same chronological age group. It is quite important that teachers, parents, guardians, and social workers should know that these different phases of development in the child are not always parallel. They should be particularly on their guard to locate individual variations in the development of children during the puberal period, for at this time these differences are greatly influenced by climatic and social environment as well as by racial and family inheritance.

The chief characteristics of puberty vary in intensity according to the individual. Generally speaking, puberty is a period of rapid growth with great functional changes which naturally affect the mental and emotional life of the child; however, with some children these changes are gradual. There is no set chart for the procession of the changes; contrasting characteristics are manifested in different children at different times. In normal development there is an increase in the size of the head and in the lung capacity, a remarkable increase in strength and accuracy of movement and a rapid growth of the sex organs. Clumsiness in movement is often noticeable. This awkwardness tends to make the child self-conscious. Antagonism between the sexes is characteristic. Game interest centers around coöperative and competitive games. As the "gang" tendency develops, enthusiasm is "for the team" or to be "on the team."

Puberty is a critical period for it is at this time that the temptations for criminality and immorality begin to assert themselves, though it is in the high school period that the real decisions are made. It is also true that at this period the nervous and emotional instability of the adolescent period begin to develop and nervous disorders are frequent. Girls usually develop at an earlier age than boys and are apt to be individualistic and introspective, while boys are invariably adventuresome, courageous, and reckless. Norsworthy and Whitley summarize the kind of training needed during this transition period as follows:

> "Training should provide many and varied outlets for physical activity, should throw larger responsibility on habits of decision and choice, should recognize and direct the gang spirit in boys, providing and guiding social companionship, rather than seeking to eliminate or suppress it. The dramatic and imaginative instincts may be appealed to in religious ceremonies, the love of competition and rivalry by emphasis on progress." *

The mental interest of this period is a "genuine work interest," if there is sufficient incentive in the form of a real purpose. Vocational work appeals to the manly and womanly impulse toward responsibility that is awakening. Reasoning ability is developing. The adolescent wants underlying principles, real facts, real problems, for he is intensely utilitarian. "Umph, that is no good, it doesn't work," is a frequent criticism made by the boy of this age. School life must be vital, if it is to hold him, but there are many things that will interest him and there is no excuse for his frequent dislike for school. He is interested in nature, particularly in animals. Hero worship is nearing its height. Great leaders of the world, the problems they had and the way they solved them, if properly presented, will arouse his interest and give him a large group of basic truths. As a period of activity, aliveness and growth, no other period of school life, excepting the first grade, offers as many possibilities for the guidance of an individual into the adjustments of life as does the period of puberty. Therefore sympathetic understanding, patience, a wholesome environment, and a hygienic program of daily living are of utmost importance.

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*Norsworthy and Whitley, "Psychology of Childhood," The Macmillan Company, New York. Pp. 251–52. Used by permission of the publishers.

CHAPTER XXVIII

SEVENTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: NATURE STUDY, AGRICULTURE AND HEALTH

Age 12 to 13 years

Time Division: Thirty minute period daily.

Aims and Purposes

General Aim

To teach a proper appreciation of nature and to show that the natural results of outdoor life are health and happiness, if ideas of personal hygiene and sanitation are heeded.

Teacher's Aim

To develop the idea of the opportunities for good health on the farm and to show how it has been neglected.

Pupil's Aim

To learn the possibilities of health and happiness in nature-study and agriculture.

Text

Skilling, William T. "Nature-Study Agriculture," World Book Co., New York (1920) or any other standard agriculture text suited to the seventh grade.

Launching the Nature-Study, Agriculture and Health Idea

A hike or picnic in the woods is a good approach to the joys of nature study. In seventh grade work bird walks for the study of birds may be instigated, and will immediately meet with the approval of girls who are already organized in a live Girl Scout Club. Boy Scouts, Girl Scouts, or Camp Fire Girls are so well distributed now

throughout the country that it is not difficult to find a point of contact with nature study. A garden is another good approach, either a garden in the past at home or a school garden will awaken interest. A lecture on some vital phase of nature by a good lecturer or a nature story, a series of lantern slides on nature or a moving picture of some great forest reserve, fishery, henery, ranch or garden also give an interesting approach to the subject. With any of these a carefully studied contact with some phase of health work should be presented.

Procedure Suggestions

A survey of the mosquito situation makes an interesting September problem leading up to drainage experiments, to destroy mosquitos and to improve soil. To this might be added irrigation as a school garden project preceded by the study of irrigation in the west. In this fall discussion of school gardens, the matter of fertilizer and the Muscle Shoals project make an interesting geography correlation as well as current events discussion. The Panama Canal also makes an interesting correlation in geography and health. Health cross word puzzles, posters, booklets, playlets furnish additional interesting forms of self-activity.

Seventh Grade Procedure

After a thorough medical examination, check personal health habits by diaries. Let the seventh grade health work for girls follow in general the Nature-Study-Agriculture-Health idea. Vitalize it by a live Girl Scout organization wherein the girls enjoy long hikes, overnight camping parties, early morning bird walks and the usual setting up exercises. School gardening may be a regular part of their school procedure. This gives an opportunity for the study of the need and economy of the home vegetable garden. Surveys may be made of some modern rural homes in the vicinity and also of a model dairy. The importance of milk in the diet and the necessity for pure milk should be emphasized. This work may be further broadened by close correlation with health problems as found in the general science course, in connection with the principles of sound, heat, light and electricity as applied in natural home phenomena.

An interesting project in the general science work is the wiring and lighting of a two story doll house belonging to the first grade

A Model Dairy, Seventh Grade Sand Table Problem

children. Hygienic lighting of every room in the house should be considered. This gives an excellent point of contact for study of the hygiene of the eye.* Electricity as a time saver and a labor saver may be discussed, as well as safety ideas in the use of electricity. The study of the Delco system with its many advantages for the rural home will connect electricity with the rural home problem. In connection with the study of sound there is an opportunity for the study of the hygiene of the ear, with the menace of adenoids and bad tonsils. Heating and ventilation as applied to hygienic home life make an additional vital contact with everyday health problems.

THOUGHT CONTENT

A Model Rural Home and Farm

I. Location and Surroundings of Home

A. Planning the home grounds for:
   1. Beauty.
   2. Shade.
   3. Utility.
   4. Convenience (Time saving.)
   5. Home playground.
      a. Croquet.
      b. Tennis.
      c. Medicine ball.
      d. Tether ball.
      e. Swimming pool.

II. Planning the Home

A. Sanitary arrangement of the home.
   1. Heating.
   2. Lighting.
   3. Ventilation.
   4. Safety (Fire protection.)
   5. Sewerage.
   6. Water supply.

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*Story: "Why Ned's Example Would Not Come Right," in "Health Training in Schools."

B. The Kitchen.
   1. Floor plan.
   2. Time savers.
   3. Sanitation (Garbage disposal).
   4. Qualities of the room.
      a. Neatness.
      b. Cheerfulness.
      c. Beauty.
      d. Conveniences of room.

C. Household Pests.*
   1. Mice.
   2. Roaches.
   3. Bed bugs.
   4. Flies.
   5. Mosquitoes.

D. Building materials.
   1. Wood.
   2. Brick.
   3. Stucco.
   4. Stone.

E. Influences of home conveniences on health.

F. Contrast dependence of the urban home to the independence of the rural home.

III. The Home Garden

Introduced by "The Treasure in the Garden," Aesop's Fables. (The will of the old father who left his sons a fortune of gold buried in the garden.)

A. Soils.
   1. Content elements.
   2. Value of water in soil.

B. Vegetables.
   1. Value of vegetables in the diet.

C. Flowers.

D. Seasonal work.
   1. Hot beds.

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*See Chap. V., pages 66–67.

2. Cold frames for providing fresh green vegetables in winter.

IV. The Barnyard

A. Sanitation.
   1. Care of barnyard.
   2. Drainage away from wells or spring.
   3. Control of flies.
   4. Control of rats.

B. Conveniences. (Time saving.)

C. The milk supply.
   1. The healthy cow. (Tuberculin test.)
   2. Clean cow.
   3. The healthy milker.
   4. The clean milker.
   5. The clean container. (Partially closed milk pail.)
   6. Bottling of milk.
   7. Immediate cooling of milk.
   8. The uses and value of milk.
      a. The family.
      b. Hogs.
      c. Shipping cream, butter, milk and cheese.

D. Hogs.
   1. Do not allow to have access to open toilets, because will spread parasitic diseases.
   2. Do not allow hogs to feed on any kind of filth.
   3. Keep hog pens clean.

E. Intelligence and friendship of birds and domestic animals (dog, horse, etc.).

F. Chickens.
   1. Value of chickens and eggs in diet.
   2. Care of chickens.

G. Feeding experiments—rats, hogs, chickens, vegetables, (potatoes).*

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*Reference: Cuzzort and Trask, "Health and Health Practices." D. C. Heath Co., New York.

V. Preparation of farm lands

A. Drainage problems.

1. To improve land and to get rid of mosquitoes.

VI. The joys of the open country

1. Independence.
2. Beauty.
3. Fun (hunting, fishing, etc.)

A FEEDING PROJECT* FOR SEVENTH GRADE BOYS

Time given to experiment—90 days.

Teacher's Aim

To interest boys in hog raising and at the same time to teach them the importance of a balanced ration.

Pupils' Aims

To learn how to raise hogs successfully and also to learn the importance of a balanced ration.

Launching the Project

A visit from the farm demonstrator to give the boys a practical talk on pig clubs and arouse their interest in the experiment, is a good way to begin. Follow this by a general discussion in which the farm demonstrator and teacher offer practical suggestions. If possible interest a neighbor in donating two pigs. Four month's old litter mates are best for this experiment. In the manual training period, two strong pig pens with floors may be built.

Procedure

Feed one pig an unbalanced ration of corn and water only. Pay no attention to parasites internally or externally, and give no minerals. Feed other pig a balanced ration of corn, tankage, peanut meal, wheat shorts, together with a mineral mixture consisting of charcoal, hardwood ashes, lime and salt. Keep this pig free from

*Developed by John Blake, Dallas County (Ala.) Farm Demonstrator, and Professor F. E. Wilkinson.

parasites, lice and intestinal worms, using oil for the former, and santonin for the latter.

To maintain interest have the boys furnish the feed and care for the pigs by twos in rotation. The proceeds of the sale of the hogs may be used to buy a spring baseball outfit for the class, and in this way stimulate an interest not only in pig raising but also in vigorous outdoor play. There will be found many opportunities for direct correlations with everyday health problems. The two boys on duty should look after the sanitation of the pen in which the second pig is cared for, cleaning and liming pen each Friday afternoon. The first pig's pen should be neglected, making a striking contrast in sanitation. Class room procedure should include carefully written explanations of the feeding test with description of feeding and results. Oral discussions may be added in which girls and boys both enter. This may be a part of the regular nature-study agriculture-health course, and gives in addition excellent English training. Following is a quotation from the experience of a teacher who tried out this project with seventh grade boys:

"The project was inexpensive as shown by the record kept of all feed. Results were as expected. The pig eating the unbalanced ration gained less than a third of a pound a day, and developed pronounced symptoms of pellagra, hard scaly skin, rough hair and inflamed eyes. He classed when sold as a number four, and brought five cents per pound. The second pig, given a balanced ration and cared for in sanitary manner, gained a pound and a half a day, was in perfect condition, classed as number one, and sold for eight and one-half cents per pound. This pig made enough profit to defray the total expense of the experiment. The deduction drawn by the boys was that if pigs suffer from improper diet, boys will also grow into 'runts' if they eat an unbalanced ration. This made an excellent introduction to food study."

While the boys are working on this problem, the girls may make a study of food in their domestic science work, preparing charts, posters, and menus for their contribution to the discussion on food values for the growing girl and boy. They may also make reports, to be graded, on home work with poultry and assist in a survey on milk.

The Civic League of the seventh grade may be diverted into

a Nature Study Club, a Jack London Club, a John Burroughs Club, or an Audubon Club. The pupils should be allowed to make their own program, choose their club name and their own officers. Plays and pageants may be developed through this organization, while the course of study may be enriched by stories, poems, and lectures on nature study.

Projects for City Children

While the above course of study was planned and tested with children in small towns where space permitted school gardens and where field trips to nearby farms were easily made, there is no reason why urban children should not have an opportunity to study health as it may be correlated with nature-study agriculture. In fact it is more important for the urban child who has few or no contacts with nature than for the rural child who has every chance to know, to love, and to appreciate nature and also to use it to his daily advantage. The ignorance of urban reared children concerning the simplest facts and processes in nature is a stigma on our educational program. A child's belief that apples grow in barrels and water-melons grow on trees, and that there is a special breed of cows giving buttermilk is not funny but pathetic, when it is realized that as children and adults are brought close to nature, they are brought close to the beautiful, healing touch of God.

The urban teacher will say, "Yes, but how can we take the children of our great cities to nature?" The answer is this, "If there is a will there is a way." There are difficulties of course but they are not insurmountable. Field trips may be made in small groups to the parks, the zoo, the aquarium, the museum of natural history, the florist, the milk depot, the green grocery, the fruit stand. The reports made on these field trips should awaken interest in further study of the various types of plant and animal life, their habitat and their contribution to man either as domestic animals, pets or foods. The method of cultivation or breeding, the manner of transportation to the consumer should also be made of vital interest. For laboratory study, window boxes, small aquariums of fish and frogs, individual pets, care and feeding of class pets as white mice, pigeons, or guinea pigs will prove excellent problems. Reports by children who have lived or visited in the country, lantern slides,

pictures, stories, government bulletins from the Department of Agriculture, the Department of the Interior, Bureau of Forestry, Bureau of Fisheries, illustrated lectures by nature lovers or forestry experts, will help to visualize various phases of the work. Organizations for nature-study on holidays financed by parent-teacher association, some public spirited person or by money made by school entertainment, should plan to give each child one or more short trips to the country. Each trip should bring new material for class discussion, for laboratory work and for their class nature-study agriculture and health note book which makes an interesting major problem.

Poetry for the Seventh Grade

Wordsworth's "Daffodils."
Bryant's "To a Waterfowl."
Lanier's, "The Marsh Hen."
Van Dyke's, "Song Sparrow."
Selections from Burns, Keats, Shelley and other nature poets.

Health Playlets for the Seventh Grade

"Pirate Percy and the Slovenly Sloop." Price: 5c.
"Seven Keys." Price: 10c.
"The Spirit of the Double-Barred Cross." Price: 25c.
These three plays can be obtained from the National Tuberculosis Association, 370 Seventh Avenue, New York.

REFERENCES

Baden-Powell, Sir Robert. "Scoutmastership, a Handbook for Scoutmasters in the Theory of Scout Training," G. P. Putnam, New York. Price $1.50.

Bricker, Garland A. "Agriculture Education for Teachers." American Book Co., New York. Price $1.28.

Cooley, A. M. and Spohn, W. H. "Household Arts for Home and School;" Vol. II (Care of home, selection of food, cooking, serving, laundering, hospitality.) The Macmillan Co., New York. Price $1.32.

Hummel, William G. "Materials and Methods in High School Agriculture," The Macmillan Co., New York. Price $1.80.

LePrince, J. A. A. and Orenstein, G. G. "Mosquito Control in Panama," G. P. Putnam, New York. Price $2.50.

McKeever, W. A. "Farm Boys and Girls," The Macmillan Co., New York. Price $2.50.

McMurray, C. A. Type Studies: "New Orleans, The Gulf Port," Price: 10c; "Erie Canal," Price: 15c; "Panama Canal," Price: 15c; "Muscle

Shoals," Price: 10c; "Home and School Gardens," Price: 10c; "The Salt River Project and Irrigation," Price: 15c; "The Virginia Plantation," Price: 10c; "Glasgow and Shipbuilding," Price: 15c; "Western Geography," Price 10c. Address author 90 Peabody College, Nashville, Tenn.

Moseley, E. L. "Trees, Stars and Birds," World Book Co., Yonkers, New York. (A book of outdoor science.) Price $1.80.

Shaler, N. S. "Domesticated Animals (and Their Relation to Man and His Advancement in Civilization,") Charles Scribner's Sons, New York.

CHAPTER XXIX

EIGHTH GRADE COURSE OF STUDY IN HEALTH

HUMAN PHYSIOLOGY; FIRST AID AND HOME NURSING

(Age 13–14 years)

Time Division: 45 minutes, three times a week.

Aims and Purposes

Teacher's Aims

(1) To teach children the wonderful perfection of the human mechanism as an instrument of impression, experience, expression of the soul and the mind.

(2) How to take care of the body efficiently so that it will serve long and well.

(3) To teach the children how to meet the problems of first aid and home nursing.

Pupils' Aims

(1) To learn to appreciate the body through study of its care, functions, and service.

(2) To acquire a clear idea of the general and particular working of the body through a study of the different parts, their functions, structure, and care.

(3) To learn how to meet the simple everyday problems of first aid and home nursing.

Text*

First Semester

Winslow, C-E. A. "Healthy Living," Vol. II, Chas. E. Merrill Company, New York or

*If one of the suggested texts is chosen the others should be used as references by both teacher and pupils.

O'Shea, M. V. & Kellogg, J. H. "Keeping the Body in Health," The MacMillan Company, New York.

Second Semester

Lippitt, Louisa C. "Personal Hygiene and Home Nursing," World Book Co., Yonkers-on-Hudson, New York.

Noyes, Clara D. "Home Care of the Sick," National Health Series, Funk and Wagnalls Company, New York.

and

Lynch, Charles. "American Red Cross Abridged Text Book on First Aid," P. Blakeston's Son & Co., Philadelphia.

or

Cole and Ernst. "First Aid for Boys," D. Appleton Company, New York.

Launching the Project

Make a collection of shoes, correct and incorrect models, for men, women and children. The Y. W. C. A. charts on the care of the feet,* a model of the foot, and the actual skeleton of the foot may be used to visualize foot needs. An exhibit of this kind, and a group of simple exercises for the feet make an interesting introduction to a study of the needs of the bony structure of the feet. From this a discussion of the bones—kinds, structure, function, and hygiene, may be launched, with examples of different types of bones and their uses. Fresh beef bones and dried bones may be substituted for human bones and models in this discussion and for experiments running parallel with this work.

Procedure†

While health work should always be interesting, real study should be expected of eighth grade pupils. Eighth grade children are interested in facts, therefore, laboratory methods should be used throughout the entire course. The home nursing and first aid work should be applied to life problems. For example, use a full size bed and a pupil to take the place of the patient in demonstrating bed-making. After the demonstration, give each child an oppor-

*For prices of these charts, address National Headquarters, Y. W. C. A., 600 Lexington Ave., New York.

†See Chapter IX.

tunity to show his or her skill in this problem. A laboratory manual should be kept throughout both courses. While the texts recommended are filled with practical suggestions, supplementary reading by both teacher and pupils should be done. The course is primarily a personal hygiene course and is planned to function in the life of the child, therefore personal health habits must be stressed and carefully checked.

THEORY OR THOUGHT CONTENT

I. **Physiology**

A. Cells.
   1. Structure.
   2. Kind.
   3. Function.

B. Tissues.

C. General plan of the body.

D. Bones.
   1. Kinds.
   2. Structure.
   3. Functions.
   4. Hygiene. (Effect of posture and food).
   5. Defects of bony structure.*
      a. Flat foot, curvatures of the spine, pigeon breast, bow legs, etc. (Detailed discussion of feet and spinal curvatures.)

E. Muscles.
   1. Kinds.
   2. Structure.
   3. Functions.
   4. Hygiene.
      Effect of exercise. Experiments and demonstrations.

F. Circulation.
   1. Organs.
      a. Blood.
         (Uses of red and white corpuscles).

*See Chapter on Posture.

b. The heart.
(Hollow muscle working by contraction and relaxation. It beats and rests.)
(1) Taking pulse beat.
(Effect of position on circulation).
(2) Taking temperature.
(3) Overwork and its effect.
(4) The right and wrong way to go up stairs.
(5) Danger of over exercise. (Jumping and running).
(6) General principles and physical training.
(7) Care of weak hearts. (Need of rational exercise).
(8) Fainting. (Care).

2. Function.
(Force pump of the body fluid, the blood.)

3. Hygiene.
(Effect of exercise, food, air, and elimination; danger of toxic poisons from bad teeth, diseased tonsils.)

G. Respiration.
1. The function of the respiratory organs.
2. Organs of respiration.
a. Nose, nasal passages.
(Must have free passage for air, discussion of adenoids.
b. Pharynx and larynx.
c. Lungs.
(1) Description of lungs.
(2) Position of lungs.
(3) Effect of posture on lungs. (Posture drills and breathing exercises.)
(4) Tuberculosis.
(a) Causes.
(b) Symptoms.
(c) Cure.
(d) Prevention.

3. Need of pure air.
   a. Good air defined is:
      (1) Clean air. (Free from dust).
      (2) Air in motion.
      (3) Correct temperature. (68° maximum indoors, preferably lower).
      (4) Humidity. (Correct amount of moisture in air).
   b. Ventilation problems.
      (1) At school.
         (a) Methods of ventilation.
         (b) Student monitors for ventilation of school.
         (c) How air is contaminated. (Dust and its effect, how to protect against it; body waste,—skin and other eliminations; garbage).
   c. Value of sunshine.

H. Nervous system.
   1. Organs.
      a. Brain.
      b. Spinal chord.
      c. Neurone conductors.
   2. Uses and abuses (Reflex activities, habits, types of nervousness.)*
   3. Protection. (Hygienic living).
      a. Sleep: Need, when and how much at different ages.
         (1) Right conditions for sleep. (Ventilation, comfortable bedding, etc.)
         (2) Mental state and sleep. (Worry, etc.)
      b. Recreation. (Play outdoors).
      c. Effects of alcohol and nicotine.

I. Review of digestive organs and hygiene of digestion.†

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*Carroll, "The Mastery of Nervousness," The MacMillan Co., New York.

†See Chapters IV. and XXV.

J. Review of special sense organs and their hygiene.
   1. Effect of remedial defects. (Adenoids, eye strain, bad tonsils, and bad teeth, etc.)
   2. Effect of so called children's diseases.

K. Causes of headache, danger of patent medicines.

L. Alcohol and tobacco.
   1. Effect on body.
   2. Effect on mind.
   3. Effect on society and morals.
   4. The liquor problem in politics and economics.
   5. Corrective agencies.
      a. Educative.
      b. Legislative.
      c. Substitutes.

M. Summary.
   1. Review four organs of elimination.
   2. Enemies of our bodies.

II. Nursing

A. History of nursing.
   1. Founder of modern nursing. (Florence Nightingale and the Crimean War.)
   2. Nursing in the Civil War.
   3. Nursing in the World War. (The Red Cross Nurse.)*
   4. The nurse in peace times.†
      a. Care for famine and disaster sufferers.
      b. School nurse.
      c. Industrial nurse.
      d. Visiting nurse.
      e. Public health nurse.
   5. The need of first aid and home nursing training for all. (Men, women, boys, and girls).
      a. At home.
      b. On street.
      c. At business, or camp, etc.

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*Life of Clara E. Barton.
†Public Health Nursing"—by Mary S. Gardner.

III. Nursing Procedure

A. Preparation for cleaning.

B. Care of sick room.
   1. Ventilation.
   2. Lighting.
   3. Cleaning.

C. Bed making.
   1. With patient out of bed.
   2. With patient in bed.
      (Full size bed and patient.)

D. Bathing patient.

E. Lifting patient.

F. Making patient comfortable in bed.
   1. Propping up patient, (chair to back).
   2. Knee rest.
   3. Cover cradle.
   4. Invalid tray.
      (Regular preparation of menu for an invalid a ninth grade problem).

G. Entertaining patient.

H. Home substitutes for hospital supplies. (See Home nursing manual.)
   1. How to make an ordinary single bed into a high hospital bed.
   2. How to use a chair for a back prop.
   3. Substitutes:
      Home made bed pans; wringers; pads; knee props; cover cradles; salt bags to be used in place of hot water bottles; oil cloth bags to be used for ice caps, etc.

Problems

Keep score cards for checking health habits.

Have pupils make impression of their own feet, outlining them. If feet are flat, check progress monthly on individual report cards.

Have pupils make window boards for each window.

Have student monitors ventilate and keep written report of outside temperature and inside temperature.

Make charts on personal hygiene—posture, care of feet, exercise, fresh air, eating, elimination of body wastes, value of sunshine, danger of patent medicines, care of teeth. Make chart model of the body.

Make a health booklet, "My Body's Needs in Health, in Sickness," according to plan studied and gradually evolved on blackboard and transferred to note book.

Debates: "The Heart vs. The Lungs," "Personal Hygiene vs. Public Hygiene."

Composition work: "My Feet," "My Thoughts and My Health," "My Food and My Health."

Practice in taking pulse beat and temperature.

Practice in making Snellen's vision test, watch test for hearing, weighing and measuring.

Exercises for habitual right use of the body, walking, lifting, bending, stooping, stair-climbing, sitting, standing. Posture work leading to the award of the American Posture League pins.*

Rotation responsibility for equipment and care of rest room where bed and emergency outfit is kept.

Bed-sheets and pillow cases made by students for one bed in ward of city hospital and entertainment in the way of scrap books, games, stories, etc., furnished for the patient.

Manual training problems: Medicine cabinet, cover cradle, etc.

Note: For additional ideas see Chapter IX. Physiology.

REFERENCES

Barton, William E. "The Life of Clara E. Barton, Founder of the American Red Cross," 2 Volumes, Houghton Mifflin Co., Boston. Price $10.00.

Blech, G. M. Handbook of First Aid. Bauer and Black, 2500 South Dearborn Street, Chicago.

Fisher and Fisk. "How to Live," Funk & Wagnalls, New York. Price $2.00.

Gardner, Mary S. "Public Health Nursing," The Macmillan Co., New York. Price $3.00.

Hough and Sedgwick's. "The Human Mechanism," Ginn & Co., Boston. Price $2.40.

Pope, Amy Elizabeth. "A Text Book of Simple Nursing Procedure for High Schools," G. P. Putnam Sons, New York. Price: $2.50.

Ritchie, J. W. "Human Physiology," World Book Co., Yonkers-on-Hudson, New York. Price 30c.

Rucker, Augusta, M. D. "Ten Talks to Girls on Health," Woman's Press, New York. (1921) Price: $1.00.

Winslow, C-E. A. "Healthy Living," Charles E. Merrill Co., New York. Price $1.80.

*For circular describing posture tests, write to the American Posture League, 1 Madison Avenue, New York City.

CHAPTER XXX

THE NINTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: HOME ECONOMICS AND HEALTH

Age 14–15 years

Time Allotment

Four forty-five minute periods for recitation and one double period for laboratory work each week throughout the school year.

General Aim

To emphasize and broaden the manifold health problems in study of home economics.

Teacher's Aims

To teach the every day home problems in health, thrift, and efficiency through study of home economics problems.

Pupils' Aims

To learn about food and textile values, budgets, emergencies, duties of host and hostess, cookery, camp and home, so as to become more efficient and more gracious citizens.

Text

Bailey, R. "Food Products, Their Source, Chemistry and Use," Second Edition. P. Blakiston's Sons & Co., Philadelphia.

Forster and Weighley. "Food and Sanitation," Row, Peterson and Company, New York. (A text book and laboratory manual for high schools.)

Kinne and Cooley. "Foods and Household Management," The Macmillan Company, New York.

Launching the Correlated Study of Health and Home Economics

Check up weight for height, after which a discussion for the causes of underweight and overweight should be made. Examine food habits of the class. As the class becomes interested in the chemistry of food, they will become easily turned in the direction of a review of digestion and the digestive tract. Suitable menus for the athletes, the underweights, and the over-weights will reach the interest and needs of most of the group.

Theory or Thought Content

I. **Food**

A. Need of food.
(The historical aspect of food getting.)

B. Sources of food.
1. Geographic distribution.
2. Preparation for market.
   a. Canning.
   b. Drying.
   c. Manufacturing.
   d. Cold storage.
3. Transportation. (Marketing.)

C. Uses of food.
1. Building material for growth and repair. (Milk, meat, eggs, fish, cheese, nuts, peas and beans.)
2. Source of energy—different for different ages. (Sugar, cereals, bread, potatoes, fats and milk.)
3. Regulating body processes.
(Mineral salts, water, bulky foods as vegetables, fruits, coarse cereals, vitamines, where found, why needed.)
4. Reasons for omitting alcohol and nicotine from food list.
5. Reason for omitting tea, coffee, and coca-cola from food list.

D. Caloric values of food and price of food.
1. Day's dietary. (Menus for each meal.)

a. For the athlete.
b. For the overweight.
c. For the underweight.

E. The official control of food.
1. Adulterations.
2. Food laws.

F. Commercial food products.

G. Cookery. (Camp and home.)
(Eggs, hot bread, cocoa, coffee, tea, meats.)

H. Duties of hospitality.
1. Duties of a host.
(Carving, serving, and other etiquette.)
2. Duties of a hostess.
(For training in manners, dinner parties, buffet luncheons, chafing dish parties, and receptions, may be given. Girls may serve the more formal meals, while boys may give class picnic and other camp meals, outdoors, if possible. However, change is advisable.)

II. Clothing

A. Textile study.
1. Sources of materials.
2. Properties of materials.
3. Manufacture of materials. (History and evolution of manufacture.)
4. Sweatshop labor.
5. Purchase of material—prices, width, quality.
6. Suitability of clothing to:
a. Personality. (Color and line in relation to wearer.)
b. Use.
c. Income.
7. Hygiene in clothing.
a. Study of color in relation to seasonal needs.
b. Study of material in relation to seasonal needs.
8. Durability of clothing.
9. Care of clothing.

III. Home Building and Furnishing

A. Planning the house and grounds.

B. Furnishing the house.

C. Keeping the home within a certain price limit.

IV. Budgets

A. Spending.

B. Saving. (Personal account keeping, budget for high school boy or girl, budget for family.)

V. Emergencies, First Aid, Home Care of the Sick
(Combination of Boy Scout and Red Cross Work.)

Problems

For Girls. Planning home meals and dietaries for different ages. Also menus suited to her own needs; keeping personal accounts, budget for high school girl; budget for family; booklet on textiles with appendix on suggestions for herself.

For Boys. Planning menus suited to his own needs; menus for athlete; keeping personal account; budget for high school boy; budget for family; keeping account of materials needed for home building, with detailed planning of the home; training in duties of host; carving, serving etiquette; testing fabrics in laboratory; surveys of local manufacturing companies. Selecting correct meals from various hotel and restaurant menu cards.

The ninth grade is invariably interested in good manners. This approach should be used for review of good health habits, correct eating habits as clean hands, short clean finger nails, fresh clothing, cheerful conversation, eating slowly, masticating thoroughly, drinking only when mouth is free of food, etc. The correct use of silver, napkins, etc., correlates naturally with these habits. A score card on good health and good manners may be worked out by the pupils.

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CHAPTER XXXI

INTRODUCTION TO THE SENIOR HIGH SCHOOL

THE HIGH SCHOOL GRADES

(Ages 14–18)

Characteristics and needs of the high school youth. The high school youth intensifies the characteristics of the "upper grades." As growth increases the stress increases. It is distinctly a period of extremes—mentally, physically, emotionally. Occasionally, the mere physical energy and enthusiasm of this period lead a boy or girl into serious physical strain, for example, over-training or over-exertion for the success of the team. This may result in heart strain. While both boys and girls should be guarded against over-exertion, idle day dreaming or morbid introspection is probably more prevalent.

It might be well to state here that basket ball and inter-school games by boys' rules should never be tolerated for girls. All athletics for girls must be carefully supervised because girls tire easily and are prone to play strenuous games during menstruation. Women coaches are far better for girls for these reasons. Physical training teachers and coaches for adolescent boys and girls should be excellently trained and of best teaching material for there is probably no other teacher who has as great opportunity to catch, hold, and guide their interests and at the same time to encourage and protect their normal development.

The problem of guiding youth into wholesome manhood and womanhood can be solved only through a vitally interesting program in school and out of school. Athletics for the few must be broadened to include all types of contests and athletic events wherein every one of the group is given an opportunity to develop and express his or her powers of agility, skill, or grace. Swimming, dancing, and hiking should be provided for all. Since nature study is a strong in-

terest during this period, camping and collecting offer opportunities for its study. This also gives wholesome outlets for the surplus energy of both adolescent boys and girls.*

In the discussion of the education of the high school group, Dr. Kilpatrick insists that "The work should be more systematic and ideas better organized. . . . Facts should be linked up with general principles." He further states that "Emphasis should be placed not merely on doing things well, but upon learning to do them the easiest, quickest and best way." He also emphasizes the following facts (1) that the youth needs to learn something of a variety of subjects; (2) that he should also be required to do more thorough work in some lines than he has ever done before; (3) that method should lead pupils to gain some ability in organizing their knowledge about general truths and in making deductions for themselves, rather than in giving them a large amount of knowledge. Vocational training opens up a limitless field for this practical development.

The high school period a period of stress. The period of transition from childhood to manhood and womanhood is a period of emotional stress and of moral choice. There are so many new promptings that the youth does not understand himself or herself. Adjustments are many and difficult, temptations strong. The ideals of the young people themselves are their chief guides. Therefore their associates and surroundings should provide the best possible influence. Jewett shows us by statistics that "in the vast majority of cases the one special choice which turned the lives of the men upward instead of downward was made between the ages of fourteen and twenty." † The emotional instability of the periodically lazy, day dreaming adolescent, of the awkward, self conscious, or of the loudly attired and boastful adolescent deserves understanding, not ridicule. A happy home-life, inspirational books, wholesome recreation, good companions, careful physical direction, in fact, everything that strengthens "body, mind, and will power" should be used to guide youth during the trying adjustments of the high school age.

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* See Clubcraft, Chapter XVI.

† Jewett, Frances Gulick. "The Next Generation," Ginn & Co., p. 127.

CHAPTER XXXII

TENTH GRADE COURSE OF STUDY IN HEALTH

CENTRAL CORRELATION: CIVIC BIOLOGY AND HEALTH

(Age 15–16 years)

Time Allotment

Four forty-five minute periods for recitation and one double period for laboratory work each week throughout the school year.

General Aim

To develop a civic consciousness based on scientific facts as they are met in daily lives of human beings.

Teacher's Aims

To teach the function and the inter-relationship of all living things, both plant and animal, with emphasis on their relationship to the health of man.

Pupils' Aims

To learn to understand and to appreciate the dependence of man upon all living things, both plant and animal.

Text

Hunter, George William, "A Civic Biology," American Book Company, New York or

Smallwood, Reveley, & Bailey. "Biology for High Schools." Allyn & Bacon, Boston.

Theory or Thought Content

I. Biology Defined

"Biology is the science which treats of life and all living things —plants, animal, and man."*

* Bigelow, M. A. and Anna N. "Applied Biology." The Macmillan Company, New York, pp. 2–3.

A. The Inter-relationship of animal and plant life.
   1. Food.
      a. Food of various animals.
      b. Plant and animal food used by man.
      c. Relative cost of man's food.
   2. Housing.
      a. Nature's contribution to the homes of man.
      b. Health and safety in location, construction, and care of the home.
      c. Laws affecting sanitation and safety in tenements, schools, etc.

B. Adaptation.
   1. Adaptation of various animals for
      a. Food getting.
      b. Protection.
   2. Man's great adaptability for
      a. Food getting (ability to use variety of food).
      b. Protection.
      c. Living in all climates, under various conditions.
         (1) Man is physically the most adaptable of all animals.
         (2) Man is least happy of all animals in his environment.
         (Inferences for Mental Hygiene).

II. Living Organisms, Plant and Animal

A. Their distribution.

B. Their physical mechanism, life functions—respiration, circulation, oxidation, assimilation, feeding, digestion, absorption, elimination, growth and reproduction.
   1. Simple to more complex type of organisms.
      a. Biological similarity of all organisms. (amoeba to man).
      b. Examples of non-use of biological powers (the succalina).
   2. Reproduction in plant life.
   3. Reproduction in animal life, lower to higher form.
   4. Human reproduction. (Use this opportunity for Sex Education).

References: Cady, V. M. and B. M. "The Way Life Begins." American Social Hygiene Association; Bigelow, "Sex-Education."

C. Their function in nature's plan.
   1. Micro-organisms.
      a. Animal.
         (1) Protazoa.
            (a) Helpful (decomposition, etc.)
            (b) Harmful (Human diseases, animal diseases.)
      b. Plant.
         (1) Bacteria.
            (a) Helpful.
            (b) Harmful.
         (2) Yeast.
            (a) Helpful.
            (b) Harmful.
         (3) Molds.
            (a) Helpful.
            (b) Harmful.
   2. The law of the cycle.
      a. Its purpose.
      b. Examples.

D. Their economic importance.
   1. Forests (Field trips for study of local conditions.)
      a. Their value.
      b. Their protection.
   2. Wild game.
      a. Its value.
      b. Need for protection.
   3. Green plants.
      a. Manufacture chlorophyl.
      b. Furnish food for many animals.
      c. Man's need of green food. (Relative cost, value).
   4. Arthopods.
      a. Complete classification.

b. Emphasis on insect group.
(1) Local insect pests as
(a) Cotton boll weevil or
(b) Potato bug.

5. Pets, domestic animals, and fowls.
a. Their value to the family and children.
(1) Milk, butter, eggs, etc.
b. Their diseases.
(1) Their prevention.
(2) Their danger to man. (Example bovine tuberculosis, ringworm, etc.)
c. Alcohol and its effect on public and personal efficiency.
d. Alcohol and the next generation.

6. Tobacco.
a. Tobacco and mentality. (Look up records of all smokers and non-smokers in group, and compare class standing.)
b. Nicotine and health.

III. Betterment of Man's Environment

A. Riddance of all insects, vermin, and parasites dangerous to man.
1. Fly.
2. Mosquito.
3. Flea.
4. Rat.
5. Roach.
6. Hookworm.
7. Tapeworm.

B. Improved housing conditions.

C. Inspection of food supply.

D. Inspection of milk supply.

E. Protection of water supplies.

F. Improved disposal of waste.

G. Development of science of public health. (Protection against and treatment for contagious diseases.)

1. Health officers, (school and civic) medical inspectors and nurses.
2. Hospital with isolation and quarantine wards.
3. Free treatment of communicable diseases.
4. Life of some great health leaders and their contributions—For example, Pasteur, Reed, Gorgas, Trudeau.*

Procedure

It should be remembered that boys as a group have different biological interests from girls, and that children of urban communities have different interests from those of rural communities. Therefore, the launching of a civic biology project must depend entirely on the interest of the pupil and the needs of the community. To succeed, any program must have direct touch with environmental needs. The subject matter must be taken from text book theory and put into live problems to be solved, the content of the course of study must interpret the immediate environment of the pupils.

The general procedure of the Tenth Grade Civic Biology may be the usual full time class and laboratory science. However, a Junior Civic League with standing committees on publicity, coöperation, library, safety and health, numerous field trips and visits to local institutions and civic utility plants, followed by reports and debates will vitalize the work by bringing the subject matter into the lives of the pupils. An Audubon Society may be organized for the study of birds, with field trips the results of which are recorded in note books. The life and accomplishments of Audubon, Burroughs, Burbank and other great nature lovers and natural scientists may be studied. Collections of local insects; wood, leaves and bark of local trees; local flowers and ferns may be made and cataloged.

The Publicity Committee of the Junior Civic League may make posters and a class booklet called "The Proceedings of our Junior Civic League." A special program may be arranged at the end of the term for presenting this and a filing cabinet made and equipped by the class to next year's class. The filing cabinet should contain such material as Bulletins and Reports of the U. S. Bureau of Education, and Departments of Public Health, Labor, Commerce, and

* See Chapter XXVI.

Agriculture. Also such local and state bulletins, reports and surveys, and current periodicals as have been used during the year. Individual note books may be kept both for laboratory work and supplementary health problems.

It is well to have the all important personal health habits checked in the tenth grade by score cards made by the students themselves. As an illustration of the way card forms may be used to arouse class interest, the following quotation from the experience of a teacher is given:

> "The blackboard was used to make the outline for discussion, the students doing both the writing and the offering of the main topics. The teacher offered several references on teacher-rating forms and the final plan was postponed until next day. The result was a carefully made plan that interested the group because it was their work. There were four major topics with subheads scoring 25% each. The first topic was defects. Under this were questions on vision, hearing, weight, posture, the feet etc. The second topic was on general health. This included questions based on the report of a recent medical examination. The third topic was on personal habits and was guided by the famous "Sixteen Rules of Health." (See page 18). The fourth topic was on personality with subheads on manners, speaking voice, etc."

Problems

Score cards and supplementary note books on health problems make interesting individual problems. These may be kept as parallel work with the regular note book.

The making of the filing cabinet mentioned above will serve as an interesting correlation with manual training.

Suggested mottoes:

1. "We believe in ourselves and in mankind, and are ever-ready to fight to the death with human beings, anywhere to get a square deal, in the chance of life and happiness."
   —*J. T. Sowers.*
2. "I believe that a man should be proud of the city in which he lives and so live that his city will be proud that he is in it."
   —*Abraham Lincoln.*

ARE YOU AS ATTRACTIVE AS NATURE INTENDED YOU TO BE?* SCORE YOURSELF

Points

5 (a) *Hair.* "A woman's chief glory lies in her hair."
5—Glossy and free from oil. Not dry and brittle.

5 (b) *Eyes.* "Eyes that sparkle like stars at night."
2—Bright—sparkling—alert, not dull and heavy.
1—Not strained; no puckery lines or frowns.
2—Clear white of eye; not muddy or yellow.

5 (c) *Mouth.* "Smile and the world smiles with you."
2—Pleasing expression.
3—No mouth breathing.

5 (d) *Teeth.* "The charm of your smile comes in your teeth."
3—Well cared for.
2—Good apposition (teeth meet properly).

10 (e) *Skin.* "A skin you love to touch."
2—Clear without eruptions.
2—Good color, not anemic.
1—Moist and smooth, not dry and scaly.
2—Tissues firm and elastic; not flabby or soggy.
2—Skin under eyes smooth and clear; not dark and baggy.
1—Lips naturally red.

5 (f) *Hands.* "Beauty at your finger tips."
3—Skin immaculately clean. Smooth without abrasions or cuts.
2—Nails and cuticle clear and carefully cared for. (No extremes.)

5 (g) *Feet.* "A foot of comfort means miles of happiness."
3—Normal (of good shape). Shoes worn evenly on heels and sole.
2—Feet properly shod (no extremes).

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*The Journal of Educational Method. March 1925. Teacher Training and Health Education. Mary L. Preston, State Teachers College, San Francisco, Cal.

10 (h) *Posture.* Graceful carriage.

1—Head well poised.
1—Shoulders level (one shoulder not higher than the other).
1—Graceful body line unbroken by abdomen. Chest high.
1—Feet in good position—slightly apart and parallel.
1—Arms in graceful relaxation. Good lines and grace while seated.
1—Lower spine against chair back.
1—Knees almost touching each other.
1—Feet parallel or one crossed over the other. Harmony of movement while walking.
1—An elastic step—firm, not heavy.
1—Good rhythm of entire body.

10 (i) *Correct Weight* for age and height (see tables).

10 (j) *Good Hearing.* Can you hear ordinary conversation at 16 ft.?

10 (k) *Good Vision.* Can you read ordinary print at arm's length without straining? Can you read the usual billboard sign across the street?

20 (l) *The All-Important First Impression.*

5—*Radiating good health and spirits.* (Full of enthusiasm and interest; magnetic).
5—*Poise.* (A perfect control of self, often inspiring others with confidence and admiration.)
5—*Voice.* (The depth, the warmth, the force of your personality should speak through your voice.)
5—*"Pep."* (The power that makes the world's wheels go round).

Total 100. Is your score what you would like it to be? If not, why not remedy it? "Health makes Beauty."

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Bigelow, M. A. and A. N. "Applied Biology" and "Teacher's Manual of Biology," The Macmillan Company, New York. Price $2.00 and $1.00.
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Cooley, Winchell, Spohr and Marshall. "Teaching Home Economics," The Macmillan Company, New York 1921. Price $1.80.

Gannet, Garrison and Houston. "Commercial Geography," American Book Company, New York. Price $1.60.

Hill, H. W. "The New Public Health," Revised Edition (1920), The Macmillan Company, New York. Price $1.50.

Hunter, G. W. "Laboratory Problems in Civic Biology," American Book Company, New York. Price $1.20.

Jewett, F. G. "The Next Generation," Ginn & Company, Boston. Price $1.00.

Wright, L. C. "A Method that Makes Desirable Citizens," Journal of Educational Method, September, 1921.

CHAPTER XXXIII

THE ELEVENTH* AND TWELFTH GRADE COURSES OF STUDY IN HEALTH

CENTRAL CORRELATION: CIVICS AND HEALTH

Time Allotment

If college entrance credits and curriculum will permit, time allotment should be five forty-five minute periods or four forty-five minute periods and a double laboratory period. If this is not possible, use part of material for assembly talks and discussions by both teacher and pupils. The remaining material can be used as a basis for weekly club meetings and may be correlated with other subjects.

General Aim†

To develop social service among the children by broad application of health education to citizenship.

Teacher's Aim

1. To awaken a desire in the pupils to take a helpful part in the activities of their own community.

2. To familiarize them with their surroundings.

3. To lead them to see where they may help sufficiently with the good work already organized.

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*The course of study as outlined for the Eleventh Grade should be used as Senior High School health work, whether it is in the older system of eleven grades or the newer six, three, three plan. Where the schedule of the latter permits, the Eleventh Grade may use the Advanced Course in Personal Hygiene suggested in Chapter IV.

†Certain sections of the Eleventh Grade Course of Study are similar to sections on Public Health in the Tenth Grade. The repetition should be given in the form of crisp class discussion of findings of the year before, blackboard lessons and special reports which will quickly cover the material needed for a well rounded understanding of this phase of social service. This form of review will be found stimulating rather than monotonous.

4. To lead them to see where they may help launch and sustain interest in other needed community improvements.

5. To enlarge their field of interest in the great national and international humanitarian advancements.

Pupils' Aims

1. To learn something of the great public utilities, their need, service and care.

2. To learn how, when, and where we may serve our own community.

3. To learn how, when, and where we may serve our own state and country.

4. To learn how, when and where as a world citizen we are responsible for the peoples of the world.

Text

Dunn, Arthur W. "Community Civics for City Schools," D. C. Heath & Co., Boston,

or

Hill, Howard C. "Community Life and Civic Problems," Ginn & Co.

Theory or Thought Content

I. Personal Responsibilities

A. My own health and its relation to others.

1. Review and check personal health habits. (Reference: Fisher & Fisk "How to Live." Funk & Wagnals, New York City. The 16 Rules of Health, Andress, "Health Education in Rural Schools," Houghton, Mifflin, Boston, Chapter III.) King "Rational Living" Macmillan Co., New York City, pp. 85–95. James' Maxims on Habit.

B. The health of my family and its reaction on others.

1. What can be done to improve it?

Periodical physical examination of every member of the family.
Reference: Life Extension Institute Inc., New York City.

C. Domestic hygiene and sanitation applied to my own home.
   1. Sanitary housing.
      (See, Hough and Sedgwick, "The Human Mechanism" Ginn & Co., Boston.)

D. Public buildings, what I should know of their location for health and service; their construction for safety and health—heating, ventilation, exits, etc.; their care ("Thou shalt not steal," the rights of others either in the use or abuse of public properties.)
   1. The school plant.
      a. How the school plant may be improved.
         (Ayres, Williams and Wood, "Healthful Schools," Houghton Mifflin Co., Boston. Dressler, "School Hygiene," The Macmillan Co., New York.
      b. How the school plant may serve the community, as community center.
         References: "The Practical Conduct of Play," Curtis. The Macmillan Co.
         Jackson, Henry L. "A Community Center—What to Do and How to Organize It." U. S. Bureau of Education Bulletin No. 11, Health Education Series.
   2. The church.
      a. Location.
      b. The planning and furnishing of the plant.
      c. How it may best serve the community.
         References: Curtis, "The Practical Conduct of Play."
         Jackson, Henry L. "The Community Church." The Macmillan Co., New York.
   3. The postoffice, city hall, fire department, places of amusement, public library, rest room, etc.

E. The conservation of manpower, the first lesson in thrift.
   1. The importance of health.
   2. Accident prevention.
   3. Alcohol a social problem.
   4. The effects of tobacco. Review discussion of the effect on the adolescent boy and girl.
      Reference: Jewett, "The Next Generation," Ginn & Co., Boston.

II. Civic Responsibilities

A. Public health
   (Introduced by short historical summary of the growth of sanitation.)
   References: Ellis, Havelock, The Task of Social Hygiene," Houghton Mifflin Co., Boston.
   Hill, H. W. "The New Public Health," The Macmillan Co., New York.
   Walters, Francis M. "The Principles of Health Control," D. C. Heath Co., New York.
   Type Studies, see 6th and 7th grade outline.
   1. Local statistics from health officer if possible.
   2. Recent epidemics, how and where they started.
   3. Recent accidents. (Causes, preventive measures.)
   4. Our city's or county's handicapped.
      a. Number.
      b. Where cared for.
      c. How cared for.
   5. Local measures for protection of community health.

B. Public utilities. (Quick review.)
   1. Water.
   2. Sewerage.
   3. Lights.
   4. Car service.
   5. Streets and their care.
   6. Garbage cart, and closed garbage cans.
   7. Garbage dump or incinerator.
   8. Hospital (city.)

C. Fire prevention.
   1. Fire department. (Survey of local plant.)
      a. Fire houses and equipment.
      b. Fireman.
      c. Turning in a fire alarm. (Demonstration by fireman.)
   2. Causes of fire.
      a. Careless smoking, bon fires, unprotected matches.
      b. Heating and cooking devices.
      c. Spontaneous combustion and friction.

D. Accident prevention. (Survey.)
   1. Safety zones.
   2. Safety devices.
   3. Safety laws.

E. Police department. (Survey.)
   1. Jail.
   2. Personnel of the department.
      a. Police.
      b. Secret service.
      c. Judge and police commissioners.
      d. Criminal court and juvenile court.

F. Recreation.
   (What offered, where situated, how cared for, what kind of administration, results.)
   1. Playgrounds and parks.
   2. Municipal pools, golf and tennis courts.
   3. Municipal ball grounds.
   4. Movies.

G. Social problem.
   1. Americanization.
      (Metropolitan Life Insurance Co., New York. Free pamphlets on Americanization.
      U. S. Bureau of Education, Washington, D. C. Free bulletins on Americanization.)
   2. Racial differences and problems.

H. Civic improvement.
   1. "Cleaning up, painting up, keeping up."

2. Beautifying.
   a. Trees, grass, and flowers.
   b. Destroying unsightly bill boards and other eye sores.
   c. Discussion of any other local needs.

III. Industrial Problems

A. Local industries. (Factories, shops.)
   1. Study living condition of workers.
   2. Study condition under which worker works.
      a. Safe employment and safe places for employment.
      b. Safety devices.

B. Industrial health hazards.
   1. Occupational diseases.
      (Reference: U. S. Department of Labor Statistics, Washington, D. C.)
   2. Accidents in industry.
      a. Safety methods and devices. (Machine guards, dust removal apparatus.)
      b. Safety education in industries.
         (References: U. S. Bureau of Labor Statistics; U. S. Department of Standards, Washington, D. C. National Safety Council, 108 E. Ohio St., Chicago, Ill. Industrial Commission of America, Times Building, New York City.)
         Publications: "National Safety News," 108 E. Ohio St., Chicago; "Safety Engineering," Safety Press, Inc., 80 Maiden Lane, New York City.

C. Vocational hygiene.
   (Reference: Tolman, Wm. H., Guthrie, Adelaide Wood and Crampton, C. Ward, "Hygiene of the Worker," American Book Co., New York City. Taylor, Henry L., "Seating of Industrial Employes," Reprint from Modern Medicine, March, 1921. American Posture League, 1 Madison Ave., New York City.)

D. Capital and Labor.
(Reference: Grieves, W. A., "Stabilizing Our Labor Units," The Jeffery Mfg. Co., Columbus, O.)

IV. Legislative and Education Problems

A. Politics and government.

1. Purpose of legislative groups.
   a. The American office holder.
   ("Honest Service for Honest Support," frequent corruption in politics.)
2. Local laws directed toward social betterment.
   a. Health laws.
   b. Motor-vehicle legislation.
   (Accidents on the highways because of carelessness, drunken or under-age drivers.)
3. State laws directed toward social betterment.
4. National laws directed toward social betterment.
   a. Maternity laws.
   (Reference: Bulletin No. 16, "Women in Industry," U. S. Dept. of Labor, 15c.)
   b. Infant care. (1–3 years.)
   Children's Bureau.
   c. Kindergarten age. (The pre-school child, 3–6 years.)
   Bulletin on "Pre-Natal Care, Infant Care, Pre-School Care," Children's Bureau, U. S. Dept. of Labor, Washington, D. C.
   d. School laws.
   ("Compulsory education means compulsory disease," what state and federal governments are doing to protect children in school.)
   e. Alcoholic beverages.
5. International coöperation for better world conditions.
   a. The League of Nations.
   b. The Disarmament Conference.
   c. The Genoa Conference.

d. American organization working for world sufferers in disasters and disease. (For example: American Red Cross, Washington, D. C., and The Rockefeller Foundation, New York City.)

B. Educational problems.

1. School attendance. (See state laws.)
2. Medical examination. (State laws, see general discussion Chapter V of this book.)
3. Health and physical education. (See Chapter VI.)
4. Better equipment. (See "School Hygiene," by Dresslar.)
5. Vocational education. (Federal Board for Vocational Education, Washington, D. C.)
6. Occupation for the handicapped. (American Occupational Therapy Association, 370 7th Ave., New York.)
7. Vocational guidance. (Snedden, Weeks, Cubberley, "Vocational Education." Parsons, "Choosing a Vocation." Bloomfield, "Vocational Guidance of Youth," Houghton Mifflin Co., Boston.)

Launching the Social Ideal

Arouse class interest in social service by a study of the great social benefactors of the world. For the next day, ask each pupil to bring the name of the two Americans who they consider have been the greatest benefactors of society. In the class discussion which develops extend the idea to include the great benefactors of the world, chosen from the field of discovery, exploration, natural science, medical science, and religion.

After a discussion of this kind it will be easy to direct class interest to personal service, and a study of how to serve. Enthusiasm may be kept up by surveys and actual participation in civic betterment.

Procedure

The class discussion of how to serve should develop into a strong desire to be of service. Utilize this desire by organizing a social service league, consisting of all the students of the senior

high school, and an honorary member from the faculty. This organization if it catches the imagination of the students will lead in the social life and student body control, and become a most helpful factor in the school community. The officers should be chosen by the students, though the general by-laws may be written with the help of some of the faculty. The following standing committees may be appointed—personal deportment committee, social committee, school improvement committee, safety committee, library committee, social service committee (for local service), and special committees for field trips, interviews, correspondence, may be added from time to time. The weekly programs should be filled with vital current event and local discussions. Some live subjects for debates are: Health education vs. health legislation; preventable disease vs. preventable accident.

The league may undertake such projects as: organization of junior traffic squads for the study of the handling of traffic under the direction of the police department; supervising children in schoolyard during recesses; acting as traffic police to guide the smaller children on the streets and at railroad crossings at dismissal hours.

A short course in mothercraft may be given to the girls, including the care of babies, also a frank discussion of personal problems and questions.

Another interest for this group may be the editing of a weekly paper of school affairs to which each grade may contribute.

Health habits should be discussed early in the year and health diaries kept at intervals during the year. Interest may be kept alive by occasional visits to lower classes with report on findings and also by the work of the good health habit committee.

An annual child welfare exhibit should be a regular part of this course. It may consist of wall charts, booklets, models, sand tables, projects, experiments and demonstrations, all made by students and explained by them the day the exhibit is opened. For details of this exhibit and further suggestions on this course, see "Mothercraft a National Need," by author, Bulletin (1919) Georgia State College for Women, Milledgeville, Georgia. (Free).

Survey

Suggestion for an Eleventh Grade Safety Project*

UNITED STATES PUBLIC HEALTH SERVICE
FIELD INVESTIGATIONS

1. CITY ESTABLISHMENT DATE
   Type of building Shop Location
   Size
   Crowded
2. VENTILATION—Natural Ample Deflectors
   Artificial
   Temperature..... Remarks:
   Dry.....
   Wet.....
   Hum.....
3. ILLUMINATION—Natural General Impression Max. Distance from window
   Window space Ratio to floor space
   Type of window Condition
   Artificial—Type and No.
   Shadows or glare General Impression
4. GENERAL CONDITIONS—Refuse cans Cuspidor Service Sweeping Service
   Fire protection
   Fire escapes
   Coat rooms
   Washing facilities
   Eating facilities
   Toilet facilities—Type and No. Light Ventilation Cond. Ample
   Male
   Female
   Drinking water
5. SAFETY HAZARDS
6. FUMES and GASES
7. DUST
8. SPECIFIC POISONS
9. EXPOSUURE TO HEAT OR COLD
10. FATIGUE
11. EXCESSIVE NOISE

[Front of inspection card.]

* Inspection card form used through courtesy of the United States Public Health Service.

Additional copies of this publication may be procured from the Government Printing Office, Washington, D. C. 5c per copy.

REFERENCES

Bishop, Joseph B. "Theodore Roosevelt's Letters to his Children," Charles Scribner's Sons, New York. Price $2.50.

Bobbitt, Franklin. "The Curriculum," Houghton Mifflin Company, Boston. (Part III, Education for Citizenship; Chapter XI, The Nature of a Good Citizen; Chapter XII, The Development of Enlightened Large Group Consciousness; Chapter XIII, Moral and Religious Education.) Price $1.90.

Cabot, Andrews, Coe, Hill, McKinnon. "A Course in Citizenship and Patriotism," Houghton, Mifflin Company, Boston. Price $1.90.

Clarke, G. H. "A Treasury of War Poetry," British and American Poems of World War. Houghton Mifflin Company, Boston, Price 80c.

Fisher and Fisk. "How to Live," Funk & Wagnalls, New York. Price $2.00.

Foerster and Pierson. "American Ideals," Houghton Mifflin Company, Boston. Price $1.20.

"Liberty, Peace, and Justice," speeches and addresses on Democracy and Patriotism, 1776–1918, Riverside Literature Series No. 261. Price, 28c. (paper); 44c. (cloth).

McMurry, Charles A. "Benjamin Franklin and Social Service," (Type Study) George Peabody College for Teachers, Nashville, Tenn. Price, 10c.

Moses, Belle. "Louisa M. Alcott, Dreamer and Worker," D. Appleton & Company, New York. Price $1.75.

Payne, E. George. "Education in Accident Prevention," Lyons & Carnahan, Chicago.

Towne, E. T. "Social Problems," The Macmillan Company, New York. Price $1.68.

A Government Bulletin which will be valuable to both teacher and student of the Eleventh Grade Course of Study is: "Health of the Family, A Program for the Study of Personal, Home and Community Health Problems." Issued by the Federal Board for Vocational Education, Bulletin No. 86, Home Economics Series, June, 1923. May be procured from Government Printing Office, Washington, D. C. 25c. per copy.

For material on Industrial Safety, see Chapter VII.

MOTHERCRAFT TRAINING FOR THE SCHOOL GIRL*

"Let youth help shape the world while the vision splendid is still before its eyes."—JEROME K. JEROME.

Mothercraft defined. The word "Mothercraft" was coined by Mary L. Read and is broadly defined by her as follows: "Mothercraft is the skillful, practical doing of all that is involved in the nourishing and training of children in a sympathetic, happy, religious spirit. Its practice is not dependent upon physical parenthood but is a part of the responsibility of every woman who has to do with children as teacher, nurse, friend, or household associate. It is

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* Excerpts from Mothercraft, A National Need, by Kathleen Wilkinson Wooten, Bulletin (1919) Georgia State College for Women, used through courtesy of Extension Department.

mothering—that oldest, steadiest, most satisfactory vocation to women always and everywhere—made intelligent and efficient and joyous."

Resumé of the Mothercraft movement. The idea of safeguarding the race through the education of young women in the scientific care of children was originated by Froebel in the early part of the nineteenth century. The first course of this kind, however, was not given until fifty years ago at Pestalozzi-Froebel House in Berlin. From this beginning the movement spread rapidly to the secondary school system and also to many special schools for girls in Germany.

Some twenty odd years ago an excessive infant morality rate brought France and England to realize the need of similar training. A scheme for providing dinners for indigent mothers where talks on the care of babies were given proved highly successful in Paris, and other European cities soon adopted this plan. Today scores of clinics and schools look after the treatment and education of the poor mother, while courses of homemaking including Mothercraft classes have become a widely accepted part of the secondary school curriculum among the more progressive European nations.

England has also found that practical lessons in the physical care of infants prove an effective protection of life when given to the girls of the elementary grades in factory centers. These "little mothers" are the real custodians of the babies where mothers work outside the home; and, until legislation makes conditions possible for the mothers in the industrial centers to *make* Homes, the excellent course of study used by these schools might well be adopted by others.* Not only is the physical and moral welfare of the English child taught but organizations investigate the treatment of children in the home and prevent cruelties against them.

New Zealand, too, has made rapid strides in Child-Welfare work and like the mother country has contributed much inspiration to it. Her National Society for the Health of Women and Children is used as a model for mother and baby-saving work in small towns and rural districts.

In 1911 the American Association for the Study and Prevention of Infant Mortality passed a resolution to work for the establishment all over this country of "Continuation Schools of Home-

*"Mothercraft for School Girls"—Florence Horspool.

making." The first of these, "The School of Mothercraft," was founded by Mary L. Read in New York City, in December of that year. Since then, Boston, Chicago, Cleveland, Menomonie, Wisconsin, and a few other cities have organized schools for homemaking including Mothercraft courses. Some of our colleges and universities have also developed special courses along this line.

The Household Arts Department of Teachers' College, Columbia University, gives a most comprehensive course on the "Physical Care of Infants and Small Children" under Dr. Josephine Hemenway Kenyon, the well-known pediatrician and social worker. This course has proved a popular one for a number of years and is now required for certain degrees in this Department.

In 1917 the Georgia State College for Women, then known as the Georgia Normal and Industrial College, Milledgeville, Ga., established a precedent in the South, not only by offering a full year's course of study in Mothercraft, but also by making it a requirement for graduation. The course of study outlined later is modeled on work done there during the school year of 1917–1918 by two hundred and twenty enthusiastic Seniors, and it is hoped that it may be of service to other schools and colleges.

In 1918 thousands of patriots joined the Baby-Saving Campaign organized by the Children's Bureau of the U. S. Department of Labor with the motto "The well baby, the live baby, is the country's guarantee of well being." Their publicity campaign has done much to awaken our public conscience and just as the field of endeavor is limitless, so seems the tireless energy of these workers whose number is daily increasing.

Since this time many high schools, colleges and universities have added parenthood courses to their elective or required list of studies. The Merrill-Palmer School of Detroit holds a unique position as a school planned entirely for study and training of the very young child.

Need of teachers of Mothercraft. The greatest need of the mothercraft movement to-day is for efficient teachers. This may be met by our universities, some of which are equipped to give specific courses of study, for example, the School of Practical Arts of Columbia University. There practical courses in the physical care of infants and small children, psychology of childhood, sex-educa-

tion, story telling, first aid, home nursing, household management, etc., are offered both during the winter and summer sessions.

Dr. Bigelow, of Columbia University, states that it is nonsense to insist that only married women can be efficient guides in problems of homemaking. This and his further advice—that it is an excellent idea to select from the regular school staff teachers of personality who care to equip themselves for this special field—greatly simplify the problem of teaching Mothercraft.

Mothercraft and citizenship. In the first twelve months of the war the United States spent $5,266 for the freedom of each baby; that is, for each potential citizen of this nation. At this rate our Government has spent a stupendous sum for the freedom of present and future generations. Are these, the most expensive babies of history, being given the chance to grow into efficient citizens? This, our greatest national problem, is not only a matter of legislation, but also of education. It begins with what Dr. Thomas D. Wood aptly calls "a social parenthood—that all grownups ought to feel the responsibility of all children" and ends with a training for both our boys and girls in the "holiness of generation."

Without freeing boys and men from an equal responsibility in the clean heritage of present and future generations, all authorities agree that the ignorance of girls and women is the fundamental cause of high infant mortality and morbidity. Fortunately, women are learning that shallow conventionality, well named "false modesty," has fostered an ignorance which has been the direct cause of the death of millions of babies and mothers, and soon, as Charlotte V. Gulick says: "the time is coming when women will no more go into physical or spiritual motherhood unprepared, trusting to 'mother instinct' than they will go into law or medicine trusting to their sense of right and of sympathy with the sick to guide them."

Thoughtful people are discussing federal regulation of public health. Already a marriage health certificate is required by law in several states; medical examination of school children is a part of the routine of every up-to-date school system and in many cases is followed up by the visiting nurse; child labor laws and protection of women in industry, improved labor conditions and educational advantages for all are a part of our progressive platform.

All of this leads to the protection of the home, and it answers

"the need within the people for a renaissance of the home." Is not Motherhood the basis of this hope in the heart of the world? Not just physical Motherhood, but spiritual Motherhood, a broad, deep understanding in the hearts of women with well-trained minds and bodies. Who could estimate the value to the race of a practical training in nursing for them—consisting either of the three months' intensive study and practice in sanitary cleanliness, home cooking, home nursing, care of children with view to reducing infant mortality as outlined by Mrs. R. J. Marsh, corresponding secretary of the Visiting Nurse Association,* or that broader field outlined by the great Swedish lover of child life, Ellen Key,† whose plea is for one year of social service, along these lines for all non-exempt girls?

The school-girl of to-day, the mother of tomorrow. Seventy-five per cent of all American women marry, most of these have children.

There are in the United States 10,000,000 children under six years of age; 14,000,000 children between five and fifteen years of age. The development of the majority of these children lies in the hands of women—mothers, teachers, nurses, doctors.

The home would be the ideal school for the training of this great army of workers, if all home-makers were equipped to give it. Few, however, can give it, will give it, do give it, so the task for the present will have to be assumed by the school. Many educational and charitable institutions have already accepted their responsibility, others will fall in line as they, too, see this service to humanity as the key-note to American idealism.

COURSES OF STUDY IN MOTHERCRAFT

Prerequisites: For teachers, personality, knowledge, technique; for pupils, at least one year of physiology, biology, or personal hygiene; domestic science and domestic art.

Parallel courses: First aid; home nursing; home, school, and civic hygiene (brief courses at least): advanced courses in domestic art and science; story telling.

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*"Compulsory Training in Nursing," Mrs. R. J. Marsh, Literary Digest, Feb. 8, 1919, p. 26.

†"Century of the Child," Pub. 1900; "Renaissance of Motherhood," Pub. 1914, Ellen Key.

I. Individual Health Problems of the Girl and the Woman

Six talks including:

1. Care at the monthly period.
2. Relaxation.
3. Posture.
4. Habitual right use of the body—walking, sitting, lifting, stair climbing, etc.
5. Elimination of body waste.
6. Colds, headaches, backaches, and other preventable illnesses and danger signals.

II. Embryology

Two talks as follows:

1. Reproduction—asexual and sexual reproduction in plant and animal life. (Charts, models, drawings, lantern slides.) (Parallel reading by class.)
2. Human reproduction. Female reproductive organs placed and explained in detail from charts, drawings, models, slides. Embryonic development traced by lantern slides. (Parallel reading by class from bibliography.)

III. Pre-natal care

Lecture-lessons by teacher.

Text—"Pre-Natal Care."

Bulletin of Children's Bureau, U. S. Dept. of Labor, Washington, D. C.

Parallel reading from references at end of this chapter.

Written lesson emphasizing most important points.

IV. Physical care of infants and small children

Lessons recited by class.

Text—"Infant Care"—Bulletin of U. S. Children's Bureau.

Parallel reading and reports from references.

V. Pre-school age child

Lessons recited by class.

Text—"Child Care, Pre-School Age"—Bulletin of U. S. Children's Bureau.

Parallel reading and reports from references.

VI. Psychology of childhood

Class reports and discussion.

No one text, but extensive parallel reading from references on following subjects:

1. Play.
2. Heredity.
3. Recapitulation theory.
4. Instincts.
5. Moral development.
6. Periods of child life.

VII. Problems of the young child

1. Toys.
2. Pets.
3. Training (habits).
4. Punishment.
5. Sex-education.
6. Medical examination.
7. Kindergarten.

VIII. Papers on different phases of child-welfare by class

Suggestions for themes:

"The Community Conscience."
"The Model Home."
"The Marriage Health Certificate."
"Child Labor."
"The Mother in Industry."
"Women in Gainful Occupation."
"Children in Gainful Occupations."
"Child Labor Laws."
"The Model School."
"The Model Playground."
"The Story Hour."
"Communicable Diseases."
"Children's Diseases and Their Prevention."
"Medical Examination of the Pre-School Age Child."
"The Visiting Nurse."
"The Milk Problem."

"Training to Meet Social Problem of Childhood and Adolescence."

"Sex-Education."

"The Boy and Girl Scout Movement," The Camp Fire Girls, The Girl Reserves.

Debate: Heredity versus environment.

1. Experience proved that with young classes it is wiser for teacher to do all the talking in pre-natal discussion.
2. Please note in suggested course of study eugenics and sex-education are not discussed until end of course and that in briefest, frankest manner.
3. Government bulletins alone cover child-welfare problems thoroughly, if other books can not be obtained.
4. Parallel reading from references may be broadened according to age and time of student.

REFERENCES

Abbott, Julia Wade and Arnold Gesell. "The Kindergarten and Health," Health Education Series No. 14, U. S. Bureau of Education, Washington, D. C.

Baldwin, Bird T. and Lorle I. Stecher. "The Psychology of the Pre-School Child," D. Appleton & Company, New York. Price $2.25.

Bolt, Richard A. "The Baby's Health," National Health Series, Funk & Wagnalls, New York. Price 30c.

Cady, B. C. & V. M. "The Way Life Begins," American Social Hygiene Association, New York, Price: $1.25.

Gebhart, John C. "Pre-School Age Physical Defects," Reprint from "Mother and Child," June 1921.

Gesell, Arnold. "The Mental Growth of the Pre-School Child," The Macmillan Company, New York. Price $3.50.

Holt, L. Emmett. "The Care and Feeding of Children," D. Appleton & Company, New York. Price $1.25.

Jewett, Frances Gulick. "The Next Generation," Ginn & Company, New York. Price: $1.00.

Key, Ellen. "The Century of the Child," Price: $1.50. "The Renaissance of Motherhood," price: $1.50. "The Education of the Child," price: 75c. "Love and Marriage," price: $1.50. G. P. Putnam's Sons, New York.

Lee, Joseph. "Play in Education," The Macmillan Company, New York. Price $1.80.

Norsworthy & Whitley. "Psychology of Childhood," The Macmillan Company, New York. Price $1.80.

Read, Mary L. "The Mothercraft Manual," Little, Brown & Company, New York. Price $2.00.

APPENDIX

SOURCES OF FREE AND INEXPENSIVE HEALTH MATERIAL

The amount of free and inexpensive supplementary health material now available is large. Leaflets, pamphlets, bulletins, supplementary health readers, periodicals, posters, lantern slides, films, playlets and pageants may be had on every phase of health, either free or for a nominal sum. The following list includes government bureaus, independent organizations, and business firms. Besides these, excellent literature may be secured from the health departments of many cities and states. A postal card will bring samples, price list, and frequently one set of material free, while a small sum will invariably cover all material needed for study of any one topic.

American Child Health Association, 370 Seventh Avenue, New York City. Booklets, plays, posters—"Dramatizing Health" (Book, Price: $2.00.)

American Home Economics Association. Journal of Home Economics, monthly periodical. ($2.50 a year, single copies 30 cents).

American Medical Association, 535 North Dearborn Street, Chicago, Illinois. Leaflets, posters, lantern slides.

Hygeia, a popular monthly magazine containing material suitable for use in schools. $3.00 a year.

(Catalogue of additional publications and prices for quantity lots on request.)

American Posture League, 1 Madison Avenue, New York City. Schematograph (a machine that pictures posture) posters, lantern slides, leaflets describing posture tests, pins for awards. Price list on request.

American Public Health Association, 370 Seventh Avenue, New York City. American Journal of Public Health (Periodical). $5.00 a year.

American Red Cross, National Headquarters, Washington, D. C. Junior Red Cross Magazine,—50 cents a year. Junior Red Cross Calendar. High School Service, monthly, $1.00 a year. Pamphlets on nutrition and other phases of health work.

American Social Hygiene Association, 370 Seventh Avenue, New York. Pamphlets on different phases of social hygiene. Catalogue on request.

American Society for Control of Cancer, 370 Seventh Avenue, New York City. Pamphlets and slides.

Elizabeth McCormick Memorial Fund, 848 North Dearborn Street. Pamphlets on nutrition and open air schools.

Life Extension Institute, 5 West 45th Street, New York City. Circulars and Bulletin on request.

Merrill Palmer School, 71 Ferry Avenue, East Detroit, Michigan. Health readers for young children.

Metropolitan Life Insurance Company. Pamphlets, health readers, health rhymes—(Materials free to individual teachers).

National Child Labor Committee, 105 East 22d Street, New York City, "The American Child" a monthly Bulletin. Bulletins and slides on Child Labor conditions.

National Child Welfare Association, 70 Fifth Avenue, New York City. Posters. Send for catalogue.

National Dairy Council, 910 Michigan Avenue, Chicago, Illinois. Posters, plays, leaflets, lesson outlines.

National Health Council, 370 Seventh Avenue, New York City. List of Health Films, Price: 20 cents.

National Committee for the Prevention of Blindness, 130 E. 22d Street, New York City. Stories, plays, leaflets, motion pictures, lantern slides.

National Congress of Parents and Teachers, 1201 16th Street, N. W. Washington, D. C., Child Welfare Magazine ($1.00 a year) Pamphlets and programs free or loaned for nominal sum.

National Safety Council, 108 E. Ohio St., Chicago, Ill. National Safety News (periodical), $10.00 a year, charts, slides, films. Send for list of films.

National Tuberculosis Association, 370 Seventh Avenue, New York City. Modern Health Crusade supplies, posters, leaflets, plays. "Health Training in Schools," (Book, price $1.00).

Playground and Recreation Association of America and Community Service Inc., 315 Fourth Avenue, New York City. Standardized athletic tests, badges, plays and pageants, games and dances, pamphlets.

United States Government Publications. (Order through Supt. of Documents, Washington, D. C. Stamps not accepted in payment.)

Health Education Series, Bureau of Education, Dept. of Interior

No. 1. Wanted, Teachers to enlist for Child Health Service. Single copy, 5 cents. Additional copies, 1 cent each.

No. 2. Diet for the School Child. Single copy, 5 cents. Additional copies, 2 cents each.

No. 3. Summer Health and Play School. Single copy, 5 cents. Additional copies, 2 cents each.

No. 4. Teaching Health. Lucy Oppen. Single copy, 5 cents. Additional copies, 2 cents each.

No. 5. Child Health Program for Parent-Teacher Associations and Women's Clubs. Lucy W. Collier. Single copy, 5 cents. Additional copies, 3 cents each.

No. 6. Further Steps in Teaching Health. Single copy, 5 cents. Additional copies, 3 cents each.

No. 7. The Lunch Hour at School. Katharine A. Fisher. Single copy, 5 cents. Additional copies, 4 cents each.

No. 8. Health Training for Teachers. R. G. Leavitt. Single copy, 5 cents. Additional copies, 2 cents each.

No. 9. Your Opportunity in the Schools. L. Emmett Holt. Single copy, 5 cents. Additional copies, 2 cents each.

No. 10. Suggestions for a Program of Health Teaching in Elementary Schools. J. Mace Andress and Mabel C. Bragg. Single copy, 10 cents. Additional copies, 6 cents each.

No. 11. Milk and Our School Children. Bernice C. Reaney. Single copy, 5 cents. Additional copies, 2 cents each.

No. 12. Sleep. Harriet Wedgwood. Single copy, 5 cents. Additional copies, 2 cents each.

No. 13. Dramatics for Health Teaching. Harriet Wedgwood. Single copy, 5 cents. Additional copies, 2 cents each.

No. 14. The Kindergarten and Health. Arnold Gesell and Julia Wade Abbot. Single copy, 5 cents. Additional copies, 3 cents each.

No. 15. Suggestions for a Program for Health Teaching in the High School. Dorothy Hutchinson. Single copy, 5 cents. Additional copies, 3 cents each.

No. 16. The Continuing Need for Teachers of Child Health. Dorothy Hutchinson and Harriet Wedgwood. Single copy, 5 cents. Additional copies, 2 cents each.

No. 17. Helps for the Rural School Nurse. Harriet Wedgwood and Hazel Wedgwood. Single copy, 10 cents. Additional copies, 4 cents each.

No. 18. What Every Teacher Should Know About the Physical Condition of Her Pupils. James F. Rogers. Single copy, 5 cents. Additional copies, 2 cents each.

School Health Studies, Bureau of Education, Dept. of Interior.

No. 1. Health for School Children. A report of the Advisory Committee of the National Child Health Council. Single copy, 10 cents. Additional copies, 7 cents each.

No. 2. The Child Health School in the School of Education of the University of Chicago. Lydia J. Roberts. Single copy, 10 cents. Additional copies, 5 cents each.

No. 3. Who's Who in Healthland. A report on methods used to stimulate the acquisition of health habits in the public schools of Newton, Mass. Anne Whitney. Single copy, 10 cents. Additional copies, 5 cents each.

No. 4. Growing Healthy Children. A study of health supervision in the Trenton, N. J., schools. Mrs. Ina J. N. Perkins. Single copy, 5 cents. Additional copies, 3 cents each.

No. 5. Health Promotion in a Continuation School. Study of health teaching in the Girls' Continuation School, Fall River, Mass. Harriet Wedgwood. Single copy, 5 cents. Additional copies, 3 cents each.

No. 6. Municipal School Playgrounds and Their Management. J. F. Rogers. Single copy, 5 cents. Additional copies, 2 cents each.

No. 7. Recognition of Health as an Objective. Report of Conference at Boston, October, 1923. Harriet Wedgwood. Single copy, 5 cents. Additional copies, 3 cents each.

No. 8. School Health Supervision. Report of Conference at Detroit, October, 1923. Harriet Wedgwood. Single copy, 5 cents. Additional copies, 3 cents each.

United States Public Health Service. Pamphlets on Sanitation. List on request.

United States Children's Bureau. Department of Labor. Pamphlets on maternal, infant and child welfare. List on request.

Federal Board for Vocational Education. Home Economics Series. List on request.

Y. M. C. A. Association Press, 347 Madison Ave., New York City.

Y. W. C. A. The Woman's Press, 600 Lexington Ave., New York City. Health plays, posters and books.

Among the Manufacturing Concerns which furnish free and inexpensive health education material suitable for use in schools are:

Bauer and Black, Chicago
First Aid Kits and sick room supplies.

Colgate and Company, New York City
Talks on dental hygiene.

International Harvester Company, Chicago

Agriculture extension department: Leaflets, Charts, Slides.

Johnson & Johnson First Aid Service, New Brunswick, New Jersey

First Aid Kits and sick room supplies.

Postum Cereal Company Educational Department, Battle Creek, Michigan

Posters and booklets.

Procter and Gamble, 909 Broadway, New York City

Leaflets, plays, etc.

BIBLIOGRAPHY ON MENTAL HYGIENE

For those interested in the mental health of the child the following bibliography has been prepared by the National Committee for Mental Hygiene.

I.

The Normal Child

(a) *Books:*

(1) "The Normal Mind" by William H. Burnham, D. Appleton and Company, New York).

(2) "Wholesome Childhood" by Ernest R. Groves, (Houghton Mifflin Company).

(3) "The Mental Hygiene of Childhood" by William A. White, M.D., (Little, Brown and Company).

(4) "Personality and Social Adjustment" by Ernest R. Groves, (Longmans, Green and Company).

(5) "The New Psychology and the Teacher" by H. Crichton Miller, (Thomas Seltzer and Company).

(b) *Pamphlets:**

(1) "Childhood, the Golden Period for Mental Hygiene" by William A. White, M.D.

(2) "Mental Hygiene Primer" (25c) a symposium.

(3) "Some of the Psychological Mechanisms of Human Conduct" by Irving Sands and Phyllis Blanchard.

(4) "The Elementary School and the Individual Child" by Esther L. Richards.

(5) "Individual Variations in Mental Equipment" by Augusta Bronner.

II.

The Feebleminded Child

(a) *Books:*

(1) "Social Control of the Feebleminded" by Stanley P. Davies, Ph.D., (National Committee for Mental Hygiene, 370 Seventh Avenue, New York City).

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*Any or all of the pamphlets mentioned in the above lists may be obtained from the National Committee for Mental Hygiene at 370 Seventh Avenue, New York City for ten cents each, except those specially priced.

(2) "The Psychology of Sub-normal Children" by Leta S. Hollingsworth, (Macmillan Company).
(3) "The Retarded Child: How to Help Him" by Arnold L. Gesell, M.D., (School Publishing Company, Bloomington, Illinois).
(4) "Intelligence of School Children" by Louis M. Terman, (Houghton, Mifflin Company).

(b) *Pamphlets:*
(1) "Colony and Parole Care for Dependents and Defectives" by Charles Bernstein.
(2) "The Mentally Retarded Child in the Public Schools" by Charles Scott Berry.
(3) "Feeblemindedness" by Walter E. Fernald.
(4) "The Inauguration of a State-wide Public School Mental Clinic in Massachusetts" by Walter E. Fernald.
(5) "State Program for the Care of the Mentally Defective" by Walter E. Fernald.
(6) "The Subnormal Child" by Walter E. Fernald.
(7) "Objectives for the Special Class in the Public Schools" by Francis N. Maxfield.
(8) "Salvage of the Feebleminded" by Francis N. Maxfield.

III.

The Child with Personality Defects

(Nervousness, pampering, etc.)

(a) *Books:*
(1) "Challenge of Childhood" by Ira S. Wile, M.D., (Thomas Seltzer Company).
(2) "The Psychology of the Unadjusted School Child" by John J. B. Morgan, (Macmillan Company).
(3) "The Nervous Child" by Hector C. Cameron, M.D., (Oxford Press, New York).

(b) *Pamphlets:*
(1) "Habit Training for Children" by Douglas A. Thom, M.D., (a series of nine leaflets).

List of individual titles:

1. "Does Your Child Fuss About His Food?"
2. "Being a Parent is the Biggest Job on Earth"

3. "Do You Make the Most of your Child's Intelligence?"
4. "Is Your Child Jealous?"
5. "Does Your Child Have Temper Tantrums?"
6. "Obedience"
7. "Enuresis" (Bed-wetting)
8. "Convulsions"
9. "Some Conditions in Children That Would Suggest the Use of a Habit Clinic"

(2) "Experiences of the Child; How They Affect Character and Behavior" by C. Macfie Campbell, M.D.

(3) "Changing the Child's Behavior" by Phyllis Blanchard and Richard Paynter.

(4) "The Relation of the School to the Mental Health of the Average Child" by Jessie Taft, Ph.D.

(5) "Mental Mechanisms" by George W. Mills, M.D.

IV.

The Delinquent Child

(a) *Books:*

(1) "Abnormal Behavior" by Irving Sands, M.D. and Phyllis Blanchard, (Moffatt, Yard and Company).

(2) "Mental Conflicts and Misconduct" by William Healy, M.D., (Little, Brown and Company).

(3) "Three Problem Children." Narratives from the case records of Child Guidance Clinic (Joint Committee on Methods of Preventing Delinquency, 50 East 42nd Street, New York City).

(4) "The Individual Delinquent," by William Healy, M.D. (Little, Brown and Company).

(b) *Pamphlets:*

(1) "What Can Be Done for the Maladjusted?" by Anne T. Bingham, M.D.

(2) "Concerning Prisoners" by Bernard Glueck, M.D.

(3) "Medico-Psychological Study of Delinquents" by William Healy, M.D. and Augusta Bronner.

(4) "A Child-Guidance Clinic" by Lawson G. Lowrey, M.D.

(5) "Dispensary Contacts with Delinquent Trends in Children" by Esther L. V. Richards, M.D.

V.

The Adolescent Boy and Girl

(a) *Books:*

(1) "Psychology of Adolescence" by Frederick Tracy, (Macmillan Company).

(2) "The New Psychology and the Parent" by H. Crichton Miller, (Thomas Seltzer Company).

(3) "The Psychology of Insanity" by Bernard Hart, M.D. (G. P. Putnam Sons).

(4) "Mental Adjustments" by F. Lyman Wells, (D. Appleton Company).

(5) "The Adolescent Girl" by Winifred Richmond, (Macmillan Company).

(b) *Pamphlets:*

(1) "Mental Hygiene and the College Student—Papers One and Two" by Frankwood E. Williams, M.D.

(2) "College Mental Hygiene Problems" by Arthur H. Ruggles, M.D.

(3) "Anxiety and Fear" by Frankwood E. Williams, M.D.

(4) "Mental Hygiene Problems of Normal Adolescence" by Jessie Taft, Ph.D.

(5) "Mental Pitfalls of Adolescence" by Henry T. Stedman, M.D.

REVIEW QUESTIONS

1. Discuss your local health laws. Your State health laws. Your Federal health laws.

2. What additional local and state laws would you like to see enacted?

3. Why should health be the first aim of the schools?

4. What are the 16 rules of health?

5. Compare rural and urban health conditions. (Reference, Andress, "Health Education in Rural Schools." Chapter 11.)

6. What are the 10 points used in scoring rural homes? (Reference, Andress, as above.)

7. What are the 12 minimum sanitary requirements proposed for rural schools by the American Medical Association and the National Education Association? (Reference, Andress, as above.)

8. (a) Discuss briefly the 5 points given on location and surroundings of the school as outlined by the joint committee from these associations. (b) What quotation from this did we emphasize in class? ("A playground is ———")

9. (a) Describe the best construction and care of a school basement. (b) For what may it be used? (Dresslar, "School Hygiene.")

10. Give Dresslar's dimensions for the school room—length, width, height. Do you consider these dimensions ideal? Why?

11. Discuss briefly what Dresslar says about blackboards. (a) Location. (b) Height from floor. (c) Cleaning boards and erasers.

12. Which is more important, health instruction or health training? Why?

13. (a) Name 15 bad health habits common to school children that should be broken. (b) Name 15 good health habits that should be formed in the grades.

14. Make list of ways to develop health habits among the primary, intermediate, and high school grades.

15. Name some psychological facts to be kept in mind in habit formation.

16. Give James' Maxims on Habit. (See King's "Rational Living" p. 85–90.)

17. What four things have been promoted by medical inspection?

18. Why is the teacher's health survey necessary? When should it be given?

19. Make a list of questions which the teacher's health survey should include? Who should assist the teacher in making this survey? Why?

20. (a) When is a child said to be suffering from malnutrition? (b) Describe procedure for discovering malnutrition.

21. Name other symptoms of malnutrition.

22. What are some of the causes of malnutrition?

23. What should be included in the treatment of malnutrition?

24. How would you form and carry on a malnutrition class?

25. Discuss the practical part that the school lunch plays in malnutrition.

26. Name twelve symptoms of disease warranting exclusion from school. (Wood)

27. Why is it necessary to secure the co-operation of parents in all health work? How can this be accomplished?

28. (a) Why is it necessary to have a definite course of study in hygiene? (b) What three things should be considered in planning such a course?

29. Why should and how may information be related to habits to be formed?

30. (a) What health habits should be emphasized in the first four grades? (b) What difference in instruction should be noted in the lower and higher grades?

31. What should be included in the study of the physiology of digestion? of the nervous system? of the respiratory system?

32. How may the study of physiology be made to function in the life of the child?

33. How may we emphasize training in emergencies?

34. (a) Which should receive greater emphasis, health or disease? (b) When and how is it best to teach disease?

35. What are some of the means that may be used to vitalize health education?

36. (a) Name 5 free and inexpensive sources of health literature. (b) Name a health text or supplementary health reader suited to specific needs of each grade in the elementary school system. (c) Name 5 health books suited to the teacher's needs, telling what specific need each fills.

37. (a) What practical procedure would you adopt in rural schools to get pure water supply? (b) Sanitary sewerage?

38. (a) How would you teach a series of lessons on the fly? (b) The mosquito? (c) On rats and mice? (d) What other vermin carry diseases? What is the chief source of the diseases of man? (Hill "The New Public Health.")

39. What 3 important points are to be remembered on ventilation?

40. How may the principles of ventilation be taught to children?

41. (a) What do you think about the importance of play and physical education? (b) Name 3 games suited to the primary grades, the intermediate grades, the high school grades. Tell reasons for your choice. (c) What play ground apparatus would you wish on your play ground? How would you go about getting it?

42. Discuss the effects of bad posture. (b) Define correct posture. (c) Define the vertical line test. (d) Describe the triple posture test.

43. Define, give causes and one corrective exercise for each of the following defects of growth: kyphosis, lordosis, scoliosis, flat-foot.

44. What habits in school children should be discouraged because of their bad effect on posture? What would you do as a teacher to improve the posture of your pupils?

45. (a) Discuss the danger from common colds. (b) What are the causes of colds? (c) How may the teacher prevent colds? (d) What 2 rules if properly taught will help to keep down colds and other contagious diseases?

46. (a) Discuss the relation of the teeth to health of the child. (b) What may the teacher do to encourage the care of the teeth?

47. (a) Describe the Snellen eye test. (b) What may the teacher do to encourage the care of the eyes?

48. Describe the whisper and the watch test for the detection of ear defects. Which is the better? Why?

49. How may health education be correlated with the rest of the school program? Give 12 concrete examples.

50. (a) What are the most common defects of speech? (b) What are the chief causes of each? (c) What preventive measures should be employed?

51. What should a teacher know about mental hygiene?

52. When and how may school instruction in sex-education be given?

53. (a) What means may be used to measure the pupils' progress in health work? (b) How may the teacher's health work be measured? (c) Describe an ideal teacher.

54. What grade do you expect to teach next year? Plan a course of study for it, suggesting text and supplementary reading for students, references for yourself, ways and means for vitalizing your work.

55. Suppose that you are elected to an old type one teacher rural school, how could you improve it—construction, equipment, care and use?

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